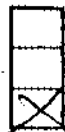


1716-1



United States  
Environmental Protection Agency  
Washington, DC 20460



Registration  
Amendment  
Other

OPP Identifier Number

294168

## Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Protocol II Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005  <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	NOTIFICATION APR 14 2004
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification of an alternate brand name

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
Certification must be submitted If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No. per container			
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Director, Regulatory Affairs	
		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			8. Date Application Received (Stamped)  <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; text-align: center; line-height: 40px; margin: 20px auto;">1</div>
2. Signature 		3. Title Manager, Registrations	
4. Typed Name Stephen J. Wratten, Ph.D.		5. Date March 31, 2004	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling:** Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data:** Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A - Check the appropriate action for which you are submitting this form.**

**SECTION I -** This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registration that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II -** This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information) -** This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
5. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point) -** This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
3. EPA Use Only.

63011C1-1/53

**PROTOCOL<sup>®</sup> II**

**HERBICIDE**

**Complete Directions for Use**



(91)063011041153

EPA Reg. No. 524-539

2004-1

GROUP	9	HERBICIDE
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NOTIFICATION  
APR 14 2004

3

63011C1-1/53

# PROTOCOL II

## HERBICIDE

Selective broad-spectrum weed control in Roundup Ready® crops. Non-selective, broad-spectrum weed control for many agricultural systems.

### Complete Directions for Use

EPA Reg. No. 524-539

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.



**CONTENTS****2**

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read the entire label before using this product.

Use only according to label instructions.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

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**1.0 INGREDIENTS****ACTIVE INGREDIENT:**

*Glyphosate, N-(phosphonomethyl)glycine, in the form of its potassium salt.....	48.7%
OTHER INGREDIENTS:.....	51.3%
	100.0%

\* Contains 660 grams per liter or 5.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its potassium salt. Equivalent to 540 grams per liter or 4.5 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patents Nos. 6,365,551 and RE 37,866. Other patents pending. No license granted under any non-U.S. patent(s).

**2.0 IMPORTANT PHONE NUMBERS**

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE,

1-800-332-3113

2. IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT,

314-694-4000

**INGREDIENTS****5**

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**PRECAUTIONARY STATEMENTS 6****3.0 PRECAUTIONARY STATEMENTS****3.1 Hazards to Humans and Domestic Animals**

Keep out of reach of children.

**CAUTION!**

CAUSES MODERATE EYE IRRITATION.

Avoid contact with eyes, skin, or clothing.

<b>FIRST AID:</b>	Call a poison control center or doctor for treatment advice.
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses if present after the first 5 minutes then continue rinsing eye.</li> </ul>
<b>IF ON SKIN</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> </ul>
<ul style="list-style-type: none"> <li>• Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</li> <li>• You may also contact (314) 694-4000, collect day or night, for emergency medical treatment information.</li> <li>• This product is identified as Protocol® II herbicide, EPA Registration No. 524-539.</li> </ul>	

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

**Personal Protective Equipment (PPE)**

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistance category selection chart.

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

**User Safety Recommendations**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**3.2 Environmental Hazards**

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

**PRECAUTIONARY STATEMENTS 7**

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**PRECAUTIONARY STATEMENTS****8****3.3 Physical or Chemical Hazards**

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

**Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for entry into treated areas that is permitted under the Worker Protection Standard and that involves contact with any thing that has been treated, such as plants, soil, or water, wear coveralls, shoes plus socks, and chemical-resistant gloves made of any waterproof material.

**Non-Agricultural Use Requirements**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses. Keep people and pets off treated areas until spray solution has dried.

**4.0 STORAGE AND DISPOSAL**

**PESTICIDE STORAGE:** Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

Empty container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

See container label for alternate PESTICIDE DISPOSAL instructions.

**5.0 GENERAL INFORMATION**  
(How this product works)

**Product Description:** This product is a postemergent, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody

**GENERAL INFORMATION****9.**

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**GENERAL INFORMATION 10**

brush and trees. It is formulated as a water-soluble liquid. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label instructions.

Do not add buffering agents or pH adjusting agents to the spray solution when Protocol II herbicide is the only pesticide used unless otherwise directed. See the "MIXING" section of this label for instructions regarding other additives.

Although not generally required, surfactants or additives containing surfactants may be added to this product. Refer to the "MIXING" section of this label for additional information.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" for recommendations for specific weeds.

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Reduced weed control may result from treating weeds with disease or insect damage, weeds heavily covered with dust, or weeds under poor growing conditions.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off

of the foliage and a repeat application may be required for adequate control.

**Spray Coverage:** For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of run-off.

**Mode of Action:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to formation of specific amino acids.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow.

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

When this label recommends a tank mixture with a generic active ingredient such as diuron, alachlor, 2,4-D, or dicamba, the user is responsible for ensuring that the mixture product's label allows the specific application.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials may result in reduced performance.

Tank mixtures with certain herbicides listed in this label may result in reduced weed control due to antagonism. Read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used. Use according to the most restrictive directions for each product in the mixture.

**Annual Maximum Use Rate:** Except as otherwise specified in a crop

**GENERAL INFORMATION 11**

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**GENERAL INFORMATION****12**

section of this label, the combined total of all treatments must not exceed 5.3 quarts of this product per acre per year. For applications in non-crop sites or in tree, vine, or shrub crops, the combined total of all treatments must not exceed 7 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

**NOTE:** Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

**Information on Weed Resistance:**

GROUP	HERBICIDE
9	

Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices.

Weed resistance management recommendations for Group 9 herbicides are:

- Ensure optimum weed control by making applications at the right time (correct weed size) and utilizing the recommended label rate for the most difficult to control weed in your field.
- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2 to 4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Monsanto representative.

**6.0 MIXING**

Use the following conversion table to help determine application rates of Protocol II herbicide based on commonly used rates of Roundup Original herbicide.

<b>PROTOCOL II CONVERSION TABLE</b>	
<b>PROTOCOL II (Ounces)</b>	<b>Roundup Original (Ounces)</b>
16	24
22	32
27	40
32	48

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

**NOTE:** REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

**6.1 Mixing with Water**

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

**MIXING****13**

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**MIXING****14****6.2 Tank Mixing Procedure**

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20- to 35-mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If ammonium sulfate is used add it slowly through the screen into the tank. Continue agitation. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding other products.
4. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
5. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
7. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
8. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift reduction additive and water soluble liquid.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance. Ensure that the specific tank mixture product is registered for application at the desired site.

Refer to the "Tank Mixing" section of "GENERAL INFORMATION" for additional precautions.

**6.3 Mixing for Hand-Held Sprayers**

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

Desired Volume	Amount of Protocol II herbicide					
	0.4%	0.7%	1%	1.5%	4%	7%
1 gal	0.5 oz	1 oz	1.3 oz	2 oz	5 oz	9 oz
25 gal	0.8 pt	0.7 qt	1 qt	1.5 qt	4 qt	7 qt
100 gal	1.6 qt	2.8 qt	1 gal	1.5 gal	4 gal	7 gal

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

**6.4 Surfactants**

Although not generally required, surfactant may be added to this product. However, surfactant addition is recommended at water carrier volumes above 30 gallons per acre or rates below 16 fluid ounces of this product per acre. Nonionic surfactants that are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, a rate of 0.25 to 0.50 percent surfactant concentration (1 to 2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient is recommended. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

When applied as recommended under the conditions described, this product controls annual and perennial weeds listed in this label booklet.

DO NOT add buffering agents or pH adjusting agents to the spray solution when Protocol II herbicide is the only pesticide used. Unless otherwise directed, non-ionic surfactant may be added to the spray solution for applications to Roundup Ready crops. The addition of certain surfactants to this product may result in

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some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Refer to the "ROUNDUP READY CROPS" section of this label or separately published supplemental labeling for additional precautions or restrictions. In addition, always read and carefully observe cautionary statements and other information appearing on the surfactant label.

**6.5 Ammonium Sulfate**

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, particularly under hard water conditions, drought conditions or when tank mixed with certain residual herbicides, on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

**NOTE:** When using ammonium sulfate, apply this product at rates recommended in this label. Lower rates will result in reduced performance.

**6.6 Colorants or Dyes**

Agriculturally approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

**6.7 Drift Reduction Additives**

Drift reduction additives may be used with all equipment types, except wiper applicators, sponge bars and Controlled Droplet Applicator (CDA) equipment. When a drift reduction additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label. The use of drift reduction additives can affect spray coverage which may result in reduced performance.

**7.0 APPLICATION EQUIPMENT AND TECHNIQUES**

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

**Aerial—Fixed Wing and Helicopter**

**Ground Broadcast Spray—**Boom or boomless systems, pull-type sprayer, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment.

**Hand-Held or High-Volume Spray Equipment—**Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

\*This product is not registered in California or Arizona for use in mistblowers.

**Selective Equipment—**Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.

**Injection Systems—**Aerial or ground injection sprayers.

**Controlled Droplet Applicator (CDA)—**Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

**7.1 Aerial Equipment**

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 22 fluid ounces per acre. Refer to the individual use area sections of this label for recommended volumes, application rates, and further instructions.

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FOR AERIAL APPLICATION IN CALIFORNIA OR SPECIFIC COUNTIES THEREIN, OR ARKANSAS, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE OR COUNTY FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

This product plus dicamba tank mixtures may not be applied by air in California.

Ensure uniform application - To avoid streaked, uneven or overlapped application, use appropriate marking devices.

### AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward, parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

### Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the "Wind", "Temperature and Humidity", and "Temperature Inversions" sections of this label).

### Controlling Droplet Size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation:** Orienting nozzles so that the spray is released

backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.

- **Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom length:** For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller droplets, etc.).

### Wind

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 miles per hour due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### Temperature Inversions

Applications should not occur during a temperature inversion because

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drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### Sensitive Areas

The product should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Avoid direct application to any body of water.

### Aircraft Maintenance

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

## 7.2 Ground Broadcast Equipment

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equip-

ment, use flat spray nozzles. Check for even distribution of spray droplets.

## 7.3 Hand-Held or High-Volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of run-off. Use coarse sprays only. For recommended rates and timing, refer to the "Annual Weeds—Hand-Held Or High-Volume Equipment" section of this product label.

## 7.4 Selective Equipment

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars, after dilution and thorough mixing with water, to listed weeds growing in any non-crop site specified on this label.

In cropping systems, hooded sprayers, shielded sprayers, and wipers may be used in row middles (in between rows of crop plants) where any dripping or leaking will not contact crop foliage. Such equipment must be capable of preventing all crop contact with herbicide solutions and operated without leakage of spray mists or dripping onto crop. Wipers over-the-top of crops may be used only when specifically recommended in this product's labeling.

### AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Application equipment used above desirable vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be

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affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

**Recirculating Spray System**

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

**Shielded and Hooded Applicators**

When applied under the conditions described in the following paragraphs for shielded and hooded applications, this product at recommended rates will control those weeds listed in the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" of this label. A hooded sprayer is a type of shielded applicator where the spray pattern is fully enclosed including top, sides, front and back, thereby shielding the crop from the spray solution. Keep shields on these sprayers adjusted to protect desirable vegetation. When applying to crops grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

Use hoods designed to minimize excessive dripping or run-off down the insides of the hoods. A single, low pressure/low-drift flat-fan nozzle with an 80 to 95 degree spray angle positioned at the top center of the hood is recommended. Spray volume should be 20 to 30 gallons per acre.

These procedures will reduce the potential for crop injury:

- The spray hoods must be operated on the ground or skimming across the ground.
- Leave at least an 8 inch untreated strip over the drift row. For example, if the crop row width is 38 inches, the maximum width of the spray

hood should be 30 inches.

- Maximum tractor speed: 5 miles per hour to avoid bouncing of the spray hoods.
- Maximum wind speed: 10 miles per hour.
- Use low-drift nozzles that provide uniform coverage within the treated area.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

**Wiper Applicators**

When applied under the conditions described in the following paragraphs, this product **CONTROLS** many weeds, including volunteer corn, Texas panicum, common rye, shattercane, sicklepod, spanishneedles, and bristly starbur; and **SUPPRESSES** many weeds including Florida beggarweed, Bermudagrass, hemp dogbane, dogfennel, guineagrass, johnsongrass, milkweed, silvertop nightshade, redroot pigweed, giant ragweed, smutgrass, sunflower, Canada thistle, musk thistle, vaseygrass, and velvetleaf.

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if two applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

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Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution.

**For Rope or Sponge Wick Applicators**—Solutions ranging from 33 to 75 percent of this product in water may be used. Apply this solution to weeds listed above in this section.

**For Panel Applicators**—Solutions ranging from 33 to 100 percent of this product in water may be used in panel wiper applicators.

### 7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products when using injection systems.

### 7.6 CDA Equipment

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 2 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 miles per hour (1 quart per acre). For the control of perennial weeds, apply a 20- to 30-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 miles per hour (2 to 3 quarts per acre).

Controlled droplet application equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

## 8.0 ANNUAL AND PERENNIAL CROPS (Alphabetical)

**NOTE:** THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED CROPS WITHIN SECTION 8 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PRE-HARVEST INTERVALS, AND ADDITIONAL PRECAUTIONS AND RESTRICTIONS.

See the "ROUNDUP READY CROPS" section of this label or separately published Monsanto Supplemental Labeling for instructions for treating Roundup Ready crops.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, and Post-Harvest Treatments.

#### GENERAL USE INSTRUCTIONS:

Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or preemergent to annual and perennial crops listed in this label, except where specifically limited. For any crop not listed in this label, applications must be made at least 30 days prior to planting. Unless otherwise specified, weed control applications may be made according to the rates listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" in this label. Repeat applications may be made up to a maximum of 5.3 quarts per acre per year.

Post-directed hooded sprayers and wiper equipment capable of preventing all crop contact with herbicide solutions may be used in mulched or unmulched row middles after crop establishment. Where specifically noted below, wipers may also be used above certain crops to control tall weeds. Refer to the "Selective Equipment" section of this label for essential precautions when using hooded sprayers or wipers to avoid crop injury caused by leakage of spray mists or dripping onto crops. Crop injury is possible with these applications and shall be the sole responsibility of the applicator.

The maximum use rates stated throughout this product's labeling apply

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to this product combined with the use of all other herbicides containing glyphosate or sullosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sullosate containing products does not exceed stated maximum use rate.

**GENERAL PRECAUTIONS, RESTRICTIONS:**

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Broadcast applications made at emergence will result in injury or death to emerged seedlings. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

In crops where spot treatments are allowed, do not treat more than 10 percent of the total field to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason.

For broadcast postemergent treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

**8.1 Cereal and Grain Crops**

**LABELED CROPS:** Barley, Buckwheat, Millet (pearl, proso), Oats, Rice, Rye, Quinoa, Tef, Teosinte, Triticale, Wheat (all types), Wild Rice.

**PRECAUTIONS, RESTRICTIONS:** Do not treat rice fields or levees when field contains water.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Red Rice Control Prior to Planting Rice, Spot Treatment (except Rice), Over-the-Top Wiper Applications (Feed Barley and Wheat Only), Preharvest (Feed Barley and Wheat Only).

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of cereal crops. Applications must be made prior to emergence of the crop.

**Red Rice Control Prior to Planting Rice**

**USE INSTRUCTIONS:** Apply 32 fluid ounces of this product in 5 to 10 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of red rice. Make application when the majority of the red rice plants are in the 2-leaf stage and no more than 4 inches tall. Red rice plants with less than 2 true leaves may be only partially controlled.

**PRECAUTIONS, RESTRICTIONS:** Avoid spraying during low humidity conditions, as reduced control may result. Do not treat rice fields or levees when the fields contain floodwater. Do not reflood treated fields for 8 days following application.

**Spot Treatment (except Rice)**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in cereal crops. Apply this product before heading in small grains.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**Over-the-Top Wiper Applications (Feed Barley and Wheat Only)**

**USE INSTRUCTIONS:** Wiper applications may be used in wheat and feed barley. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth, and when the rye is at least 6 inches above the wheat crop.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 35 days between application and harvest. Do not use roller applicators.

**Preharvest (Feed Barley and Wheat Only)**

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of wheat or feed barley. For wheat, apply after the hard-dough stage of grain (30 percent or less grain moisture). For feed barley, apply after the hard-dough stage and when the grain contains 20 percent

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moisture or less. Stubble may be grazed immediately after harvest.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 22 fluid ounces of this product per acre. Allow 7 days between application and harvest or grazing. Preharvest application is not recommended for wheat or barley grown for seed, as a reduction in germination or vigor may occur.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of cereal crops. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

**8.2 Corn**

**TYPES OF CORN:** Field Corn, Seed Corn, Silage Corn, Sweet Corn and Popcorn.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Spot Treatment, Preharvest.

For use directions for corn containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting corn. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting corn. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

2,4-D  
Aim®  
atrazine  
Axiom®  
Balance®  
Banvel®/Clarity®  
Bicep MAGNUM®  
Bicep II MAGNUM®  
Bullet®  
Degree®  
Degree Xtra®  
Distinct®  
Dual MAGNUM®  
Dual II MAGNUM®  
Epic®

Frontier®/Outlook®  
Fulltime®  
Guardsman®/Leadoff®  
Harness®  
Harness Xtra  
Harness Xtra 5.6L  
Lariat®  
Lasso®/Alachlor  
Linex™/Lorox™  
Marksman®  
Micro-Tech®  
Prowl®  
Python®  
Simazine  
TopNotch®

For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, use rate may need to be increased for acceptable weed control.

**PRECAUTIONS, RESTRICTIONS:** Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn.

For Southern states, do not apply in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. The area covered by this recommendation includes from Route 50 South in Illinois and Indiana and the following states: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

**Hooded Sprayers**

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of corn. Only hooded sprayers that

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completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Corn must be at least 12 inches tall, measured without extending leaves. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not apply more than 22 fluid ounces of this product per acre for each application and no more than 64 fluid ounces per acre per year for hooded sprayer applications.

**Spot Treatment**

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to silking of corn.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**Preharvest**

**USE INSTRUCTIONS:** Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground applications, apply up to 64 fluid ounces of this product per acre. For aerial applications, apply up to 44 fluid ounces of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest. Preharvest application is not recommended for corn grown for seed, as a reduction in germination or vigor may occur.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

**8.3 Cotton**

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Selective Equipment, Spot Treatment, Preharvest.

For use direction for cotton containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting cotton. Apply these tank mixtures in 10 to 20 gallons of water per acre.

Caparol®	Dual II Magnum
Clarity	Karmex®
Command™	Meluron®
Cotoran®	Prowl
Cotton-Pro®	Staple®
Dirax®	Zorial®
Dual Magnum	2,4-D

**PRECAUTIONS/RESTRICTIONS:** Refer to individual product labels for rates, restrictions, precautionary statements and preplant intervals.

**Hooded Sprayers, Selective Equipment**

**USE INSTRUCTIONS:** This product may be applied through hooded sprayers, recirculating sprayers, shielded applicators or wiper applicators in cotton. Allow at least 7 days between application and harvest.

**PRECAUTIONS, RESTRICTIONS:** See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

**Spot Treatment**

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to boll

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opening of cotton.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**Preharvest**

**USE INSTRUCTIONS:** This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" of this label. For cotton regrowth inhibition, apply 11 to 44 fluid ounces of this product per acre.

Up to 44 fluid ounces of this product may be applied using either aerial or ground spray equipment. Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

**TANK MIXTURES:** This product may be tank mixed with DEF<sup>TM</sup> 6, Folex<sup>TM</sup>, Ginstar, or Prep<sup>TM</sup> to provide additional enhancement of cotton leaf drop.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Preharvest application is not recommended for cotton grown for seed, as a reduction in germination or vigor may occur.

**8.4 Fallow Systems**

**LABELED CROPS:** This product may be applied during the fallow period prior to planting or emergence of any crop on this label.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Aid-to-Tillage.

**Chemical Fallow**

**USE INSTRUCTIONS:** This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or sup-

press many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used. Applications up to 44 fluid ounces per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting. Do not apply dicamba tank mixtures by air in California.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if dicamba is applied within 45 days of planting.

**Preplant Fallow Beds**

**USE INSTRUCTIONS:** This product may be applied to fallow beds prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product will control weeds listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" of this label.

**TANK MIXTURES:** In addition, 8 fluid ounces of this product plus 2 to 3 fluid ounces of Goal<sup>®</sup> 2XL per acre will control the following weeds with the maximum height or length indicated: 3 inches—common cheeseweed, chickweed, groundsel; 6 inches—London rocket, shepherd's-purse.

11 fluid ounces of this product plus 2 to 3 fluid ounces of Goal 2XL per acre will control the following weeds with the maximum height or length indicated: 6 inches—common cheeseweed, groundsel, marestail (*Caryza canadensis*), 12 inches—chickweed, London rocket, shepherd's-purse.

**Aid-to-Tillage**

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after applica-

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tion before tillage.

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures with residual herbicides may result in reduced performance.

## 8.5 Grain Sorghum (Milo)

**TYPES OF APPLICATIONS:** Those listed in Section 8.D plus the following: Spot Treatment, Over-the-Top Wiper Applications, Preharvest.

### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in tank mixture before, during or after planting grain sorghum. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting grain sorghum. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

Atrazine	IntRRo™
Bicep II MAGNUM	Lariat
Bullet	Lasso
Dual II MAGNUM	Micro-Tech

For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, the use rate may need to be increased for acceptable weed control.

### Spot Treatment, Over-the-Top Wiper Applications

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in grain sorghum. Make spot treatments before heading of milo. This product may be applied with wiper applicators to control or suppress the weeds listed under "Wiper Applicators" in the "Selective Equipment" section of this label.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

### Hooded Sprayers

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of milo. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

**PRECAUTIONS, RESTRICTIONS:** Milo must be at least 12 inches tall, measured without extending leaves. Treat before milo sends tillers between the drill rows. If such tillers are contacted with the spray solution, the main plant may be killed. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers. Do not apply more than 22 fluid ounces of this product per acre per application and no more than 64 fluid ounces per acre per year for hooded sprayer applications.

### Preharvest

**USE INSTRUCTIONS:** Make applications at 30 percent grain moisture or less.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 44 fluid ounces of this product per acre. As with other herbicides that cause sudden plant death, avoid preharvest applications of this product to milo

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infected with charcoal rot as lodging can occur. Allow a minimum of 7 days between application and harvest of sorghum. Preharvest application is not recommended for sorghum grown for seed, as a reduction in germination or vigor may occur. The use of this product for preharvest grain sorghum (milo) is not registered in California.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of grain sorghum. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 22 fluid ounces of this product per acre for control, or 16 fluid ounces of this product per acre for suppression.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

**8.6 Herbs and Spices**

**LABELED CROPS:** Allspice, Angelica, Star anise, Annatto (seed), Balm, Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Black caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese chive, Cinnamon, Clary, Clove buds, Coriander leaf (cilantro or Chinese parsley), Coriander seed (cilantro), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Dill (dillweed), Dill (seed), Epazote, Fennel seed (common and Florence), Fenugreek, White ginger flower, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf and seed), Mace, Marigold, Marjoram (including oregano), Mexican oregano, Mioga flower, Mustard (seed), Nasturtium, Nutmeg, Parsley (dried), Pennyroyal, Pepper (black and white), Pepper leaves, Peppermint, Perilla, Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Spearmint, Stevia leaves, Sweet bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following:

Over-the-Top Wiper Applications (Peppermint and Spearmint Only), Spot Treatment (Peppermint and Spearmint Only).

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to ensure that the wash water flushes off the plastic mulch and does not enter transplant holes.

Over-the-Top Wiper Applications, Spot Treatment (Peppermint and Spearmint Only)

**USE INSTRUCTIONS:** This product may be used as a spot treatment or wiper application in spearmint and peppermint. Apply spot treatments on a spray-to-wet basis with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, handguns, handwands or any other hand-held or motorized spray equipment used to direct the spray solution to a limited area. In wiper applications, the applicator should be adjusted so that the wiper contact point is at least 2 inches above the crop. Weeds should be a minimum of 6 inches taller than the crop.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30-day intervals. In spot treatment applications, no more than 10 percent of the total field area to be harvested should be treated at one time. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for this reason. In wiper applications, contact of the herbicide solution with the crop may result in damage or destruction.

**8.7 Oil Seed Crops**

**LABELED CROPS:** Borage, Buffalo gourd (seed), Canola, Crambe, Flax, Jojoba, Lesquerella, Meadowfoam, Mustard (seed), Rape, Safflower, Sesame, Sunflower.

For use directions for canola containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0.

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**USE INSTRUCTIONS:** This product may be applied before, during or after planting oil seed crops. Broadcast applications must be made prior to emergence of the listed oil seed crops. Wiper applicators or hooded sprayers may be used between the rows once the crop is established.

**TANK MIXTURES:** For sunflowers, a tank mixture with Prowl® may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 44 fluid ounces of this product per acre on canola. Do not apply more than 22 fluid ounces of this product per acre for sunflowers as a single preplant or preemergent application per year. Do not feed or graze sunflower forage following application of this product.

**8.8 Soybeans**

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Spot Treatment, Preharvest, Selective Equipment.

For use directions for soybeans containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied alone or in a tank-mixture before, during or after planting soybeans. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** Apply these tank mixtures in 10 to 20 gallons of water per acre.

Aim	Command
Amplify™	Command Xtra™
Assure® II	Domain®
Authority®	Dual MAGNUM
Boundary®	Dual II MAGNUM
Canopy®	FirstRate®
Canopy XL®	Flexstar™
Cobra®	Frontier/Outlook

Fusion®  
Gauntlet®  
IntRRo  
Lasso  
Linex  
Lorox/Linuron  
Lorox Plus®  
Micro-Tech  
Prowl

Pursuit®  
Pursuit Plus  
Retlex®  
Scepter®  
Sencor®/Lexone®  
Select™  
Squadron®  
Steel®  
Valor®

This product may be tank mixed with 2,4-D or 2,4-DB, provided that the specific product is registered for application prior to planting soybeans. See the 2,4-D label for intervals between application and planting.

For difficult-to-control annual weeds such as fall panicum, barnyard-grass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall.

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures with some of the above listed herbicides may result in reduced weed control due to antagonism. Read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used. Use according to the most restrictive directions for each product in the mixture.

**Spot Treatment**

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to initial pod set in soybeans.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10-percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**Preharvest**

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans.

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Apply at rates given in the "ANNUAL WEEDS", "PERENNIAL WEEDS" and "WOODY BRUSH AND TREES RATE SECTIONS". This product may be applied using either aerial or ground spray equipment. Apply after pods have set and lost all green color. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 3.3 quarts per acre of this product for preharvest applications. Do not apply more than 44 fluid ounces per acre of this product by air. Allow a minimum of 7 days between application and harvest of soybeans. Do not graze or harvest treated hay or fodder for livestock feed within 25 days of last preharvest application. (If the application rate is 22 fluid ounces per acre or lower, the grazing restriction is reduced to 14 days after last preharvest application.) Preharvest application is not recommended for soybeans grown for seed, as a reduction in germination or vigor may occur.

**Selective Equipment**

**USE INSTRUCTIONS:** This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans. Allow at least 7 days between application and harvest.

**PRECAUTIONS, RESTRICTIONS:** See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

**8.9 Sugarcane**

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus Spot Treatment.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied in or around sugarcane fields or in fields prior to the emergence of plant cane.

**PRECAUTIONS, RESTRICTIONS:** Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

**Spot Treatment**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 1-

percent solution of this product in water and spray-to-wet the foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.

**PRECAUTIONS, RESTRICTIONS:** Avoid spray contact with healthy cane plants since severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

**Fallow Treatments**

**USE INSTRUCTIONS:** This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 2.5 to 3.3 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage. Ground or aerial application equipment may be used. Applications up to 64 fluid ounces per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops. Tank mixtures with 2,4-D and dicamba may be used.

**Hooded Sprayers**

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of sugarcane. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional use instructions.

**PRECAUTIONS, RESTRICTIONS:** Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

**8.10 Vegetable Crops**

**NOTE:** THIS "VEGETABLE CROPS" SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED VEGETABLE CROPS WITHIN SECTION 8.10 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

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**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, Prior to Transplanting Vegetables, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, and Post-Harvest, Directed Applications (Non-Bearing Ginseng), Over-the-Top Wiper Applications (Rutabagas Only).

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to insure that the wash water flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

**8.10.1 Brassica Vegetables**

**LABELED CROPS:** Broccoli, Chinese broccoli (gai lan), Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens.

**8.10.2 Bulb Vegetables**

**LABELED CROPS:** Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot.

**8.10.3 Cucurbit Vegetables and Fruits**

**LABELED CROPS:** Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucurza, hechima; Chinese okra), Melons (all), *Momordica spp* (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straight-neck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon.

**PRECAUTIONS, RESTRICTIONS:** For Cantaloupe, Casaba melon, Crenshaw melon, Cucumber, Gherkin, Gourds, Honeydew melon, Honey ball melon, Mango melon, Melons (all), Muskmelon, Persian melon, Pumpkin, Squash (summer, winter), and Watermelon, allow at least 3 days between application and planting.

**8.10.4 Leafy Vegetables**

**LABELED CROPS:** Amaranth (Chinese spinach), Arugula (rocket), Beet greens, Cardoon, Celery, Chinese celery, Celtuce, Chaya, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Dokudami, Endive (escarole), Florence fennel, Gow kee, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Swiss chard, Watercress (upland), Water spinach.

**PRECAUTIONS, RESTRICTIONS:** For Watercress, avoid applications within 3 days prior to seeding and during the period between seeding and

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emergence to minimize the risk of injury.

### 8.10.5 Fruiting Vegetables

**LABELED CROPS:** Eggplant, Groundcherry (*Physalis* spp), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato.

**PRECAUTIONS, RESTRICTIONS:** For Eggplant, Ground cherry, Pepper (all), and Tomatillo, allow at least 3 days between application and planting. For tomato, do not make hooded or shielded sprayer applications in row middles unless otherwise directed.

### 8.10.6 Legume Vegetables (succulent or dried)

**LABELED CROPS:** Bean (*Lupinus*; includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus*; includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (*Vigna*; includes adzuki bean, asparagus bean, blackeyed pea, caljang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (*Pisum*; includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean.

### 8.10.7 Root and Tuber Vegetables

**LABELED CROPS:** Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Beet (garden), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Galangal, Ginger, Ginseng, Horseradish, Leren, Kava (turnip-rooted), Parsley (turnip-rooted), Parsnip, Potato, Radish, Oriental radish, Rutabaga, Salsify, Black salsify, Spanish salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Wasabi, Yacon, Yam bean, True yam.

#### Directed Applications (Non-Bearing Ginseng Only)

**USE INSTRUCTIONS:** This product may be used for general weed control in established non-bearing ginseng. Applications may be made with boom equipment, COA, shielded sprayers, hand-held and high volume wands, lances, and orchard guns or with wiper application equipment.

**PRECAUTIONS, RESTRICTIONS:** Direct applications so that there is no contact of this product with the ginseng plant. Applications must be made at least one year prior to harvest.

#### Over-the-Top Wiper Applications (Rutabagas Only)

**USE INSTRUCTIONS:** Wiper applicators may be used over-the-top of rutabagas.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 14 days between application and harvest of rutabagas.

### 8.11 Miscellaneous Crops

**LABELED CROPS:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: General Weed Control, Site Preparation, Spot Treatment (Asparagus), Post-Harvest (Asparagus).

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this

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label for additional information.

**General Weed Control, Site Preparation**

**USE INSTRUCTIONS:** This product may be applied for general weed control or for site preparation prior to planting or transplanting crops listed in this section.

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to ensure that the wash water flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application.

**Spot Treatment (Asparagus)**

**USE INSTRUCTIONS:** This product may be applied immediately after cutting, but prior to the emergence of new spears.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

**Post-Harvest (Asparagus)**

**USE INSTRUCTIONS:** This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

**PRECAUTIONS, RESTRICTIONS:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence post-harvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

**9.0 TREE, VINE, AND SHRUB CROPS  
(Alphabetical)**

**NOTE:** THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED TREE, VINE, AND SHRUB CROPS WITHIN SECTION 9 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATIONS:** Preplant (Site Preparation) Broadcast Sprays; General Weed Control, Middles (between rows of trees, vines or bushes), Strips (within rows of trees, vines or bushes), Selective Equipment (shielded sprayers, wiper applications), Directed Sprays, Spot Treatment, Perennial Grass Suppression, Cut Stump.

Applications may be made with boom equipment, COA equipment, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed.

**GENERAL USE INSTRUCTIONS:** This product may be applied in middles (between rows of trees or vines), strips (within rows of trees or vines), and for general weed control or perennial grass suppression in established tree fruit and nut groves, orchards, berries, and vineyards. It may also be used for site preparation prior to planting or transplanting these crops. Apply 11 fluid ounces to 3.3 quarts per acre according to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" of this label. Utilize rates at the higher end of the recommended rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 7 quarts per acre per year.

The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

**GENERAL PRECAUTIONS, RESTRICTIONS:** Extreme care must be exercised

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to avoid contact of herbicide solution, spray, drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees, canes and vines. Avoid applications when recent pruning wounds or other mechanical injury has occurred. Contact of this product with other than matured brown bark can result in serious crop damage or destruction. Only shielded or directed sprayers may be used in crops with potential for crop contact, and then only where there is sufficient clearance. For applications in strips (within rows of trees), only selective equipment (directed sprays, hooded sprayers, shielded applicators, or wipers) should be used to minimize the potential for leakage or drift of herbicide sprays onto crop. For berry crops, hooded or shielded sprayers must be fully enclosed including top, sides, front and back. Only wipers or shielded applicators capable of preventing all contact with crop may be used. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional directions and precautions.

Allow a minimum of 3 days between application and transplanting.

### Middles (between rows)

**USE INSTRUCTIONS:** This product will control or suppress annual and perennial weeds and ground covers growing between the rows of labeled tree and vine crops. If weeds are under drought stress, irrigate prior to application. Reduced control may result if weeds have been mowed prior to application.

**TANK MIXTURES:** A tank mixture of this product plus Goal 2XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations, 11 to 22 fluid ounces per acre of this product plus 3 to 11 fluid ounces per acre of Goal 2XL will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherd's-purse, annual sowthistle, filaree (suppression), horse-weed/marestail, stinging nettle and common purslane (suppression). 11 to 22 fluid ounces per acre of this product plus 3 to 11 fluid ounces per acre of Goal 2XL will control common cheeseweed (malva) or hairy fleabane with a maximum height or diameter of 3 inches.

### Strips (in rows)

**TANK MIXTURES:** This product may be applied in rows of tree or vine crops in tank mixtures with the following products:

Devrinol™ 50 DF	Simazine 4L
Dirax® 4L	Simazine 80W
Goal 2XL	Sim-Trol™ 4L
Karmex DF	Solicam DF®
Krovar I	Surflan™ AS
Prowl	Surflan 75W
Princep Caliber™ 90	

Do not apply these tank mixtures in Puerto Rico.

Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

### Perennial Grass Suppression

This product will suppress perennial grasses such as bahiagrass, Bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 4 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 4 fluid ounces of this product per acre. Do not add ammonium sulfate.

For best results, mow cool season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 2 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of Bermudagrass, apply 22 to 44 fluid ounces of this product

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in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the Bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

For suppression of Bermudagrass, apply 4 to 11 fluid ounces of this product per acre east of the Rocky Mountains and 11 fluid ounces of this product per acre west of the Rocky Mountains. Apply in a total spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the Bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and Bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 4 to 7 fluid ounces of this product per acre should be used in shaded conditions or where a lesser degree of suppression is desired.

**Cut Stump**

**USE INSTRUCTIONS:** Cut stump applications of this product may be made during site preparation or site renovation, prior to transplanting tree crops. This product will control regrowth of cut stumps and resprouts of many types of tree species, some of which are listed below.

**Citrus Trees:** Calamondin, Chironja, Citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (Tangerine), Orange (all), Pummelo, Tangelo, Tangor.

**Fruit Trees:** Apple, Apricot, Cherry (sweet, sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (all), Quince.

**Nut Trees:** Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory Nut, Macadamia, Pecan, Pistachio, Walnut (black, English).

Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

**PRECAUTIONS, RESTRICTIONS:** DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF ADJACENT DESIRABLE TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

**91 Berry Crops**

**LABELED CROPS:** Blackberry (including bingleberry, black satin berry, boysenberry, Cherokee blackberry, chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, juneberry, lavacaberry, lowberry, lucretiaberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, and youngberry), Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Loganberry, Salal.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0 plus Spot Treatment in Cranberry Production and Post-Harvest Treatments in Cranberry Production.

**PRECAUTIONS, RESTRICTIONS:** To avoid damage, herbicide sprays must not be allowed to contact desirable vegetation, including green shoots, canes, or foliage. Allow a minimum of 30 days between last application and harvest in cranberries. Allow a minimum of 14 days between last application and harvest in other berry crops. Do not make directed sprays within the cranberry bush areas prior to berry harvest.

**Spot Treatment in Cranberry Production**

**USE INSTRUCTIONS:** Spot treatments may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. Hand-held sprayers or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. Drop water level to remove standing water in ditches prior to application. In hand-held sprayers, use 1- to 1.5-percent solution of this product. Spray to wet vegetation, not to run-off.

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**TREE, VINE AND SHRUB CROPS 52**

**PRECAUTIONS, RESTRICTIONS:** For treatments after draw down of water in dry ditches, allow 2 or more days after treatment before reintroduction of water to achieve maximum weed control. Apply this product within 1 day after draw down to ensure application to actively growing weeds. Allow a minimum of 30 days between last application and harvest of cranberries. Do not apply this material through the irrigation system. Do not make applications by air. Do not apply directly to water. Use nozzles that emit medium- to large-sized droplets to minimize drift in order to avoid crop injury.

**Post-Harvest Treatments in Cranberry Production**

**USE INSTRUCTIONS:** Application of this product may be made after the harvest of cranberries to control weeds growing within the field. Best results will be obtained if applications are made to vines that appear dormant (after they have turned red). Hand-held sprayers, wipers, or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. If using hand-held sprayers, use a 0.4- to 0.7-percent solution of this product. Spray to wet vegetation, not to run-off. If using hand-held boom sprayers, apply 44 to 86 fluid ounces of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Make applications only after cranberries have been harvested. Do not treat more than 10 percent of the total bog. Allow a minimum of 6 months after last application and next harvest of cranberries. Do not apply this product through the irrigation system. Do not make applications by air. Do not apply directly to water. Even though vines appear dormant, contact of the herbicide solution with desirable vegetation may result in damage or severe plant injury. Cranberry plants that are directly sprayed may be killed.

**9.2 Citrus**

**LABELED CROPS:** Calamondin, Chironja, Citron, Citrus Hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (all), Pummelo, Satsuma Mandarin, Tangelo (ugli), Tangor.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**USE INSTRUCTIONS:** (The recommendations below pertain to Florida and Texas.)

For burndown or control of the weeds listed below, apply the recommended rates of this product in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 44 to 64 fluid ounces of this product per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 44 fluid ounces per acre when plants are less than 8 inches tall and 64 fluid ounces per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the addition of Krovar® I or Karmex® may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

**Perennial weeds:**

S = Suppression                      B = Burndown  
PC = Partial control                  C = Control

WEED SPECIES	PROTOCOL II RATE PER ACRE			
	0.7 QT	1.3 QT	2 QT	3.3 QT
Bermudagrass	B	—	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	—	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	—	PC	C

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in citrus crops. For citron groves, apply as directed sprays only.

**9.3 Miscellaneous Tree Food Crops**

**LABELED CROPS:** Cactus (fruit and pads), Palm (heart, leaves), Palm (oil).

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**9.4 Non-Food Tree Crops**

**LABELED CROPS:** Pine, Poplar, Eucalyptus, Christmas Trees, Other non-food tree crops.

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**TREE, VINE AND SHRUB CROPS 54**

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**NOTE:** Unless otherwise directed, this product is not recommended for use as an over-the-top broadcast spray in plantations or other labeled tree crops.

**Directed Sprays, Spot Treatment, Wiper Applications**

**USE INSTRUCTIONS:** This product may be used as a post-directed spray and spot treatment around established poplar, eucalyptus, Christmas trees and other non-food tree crops.

**PRECAUTIONS, RESTRICTIONS:** Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established Christmas trees and other pine trees. Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

**Site Preparation**

**USE INSTRUCTIONS:** This product may be used prior to planting.

**PRECAUTIONS, RESTRICTIONS:** Precautions should be taken to protect nontarget plants during site preparation applications.

**9.5 Pome Fruit**

**LABELED CROPS:** Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in pome crops.

**9.6 Stone Fruit**

**LABELED CROPS:** Apricot, Cherry (sweet, tart), Nectarine, Olive, Peach, Plum/Prune (all types), Plumcot.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0, except for olive groves, apply as directed sprays only.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 17 days between last application and harvest in stone fruit crops. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications

near trees with recent pruning wounds or other mechanical injury. **EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.**

**9.7 Tree Nuts**

**LABELED CROPS:** Almond, Beechnut, Betelnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Coconut, Filbert (hazelnut), Hickory nut, Macadamia, Pecan, Pine nut, Pistachio, Walnut (black, English)

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 3 days between last application and harvest of tree nuts, except coconut. Allow 14 days between application and harvest in coconut.

**9.8 Tropical and Subtropical Trees and Fruits**

**LABELED CROPS:** Ambarella, Atemoya, Avocado, Banana, Barbados cherry (acerola), Biriba, Blimbe, Breadfruit, Cacao (cocoa) bean, Canistel, Carambola (starfruit), Cherimoya, Coffee, Custard apple, Dates, Durian, Feijoa, Figs, Governor's plum, Guava, Ilaça, Imbe, Imbu, Jaboticaba, Jackfruit, Longan, Lychee, Mamey apple, Mango, Mangosleen, Marmaladebox (genip), Mountain papaya, Papaya, Pawpaw, Plantain, Persimmon, Pomegranate, Pulasan, Rambutan, Rose apple, Sapodilla, Sapote (black, mamey, white), Spanish lime, Soursop, Star apple, Sugar apple, Surinam cherry, Tamarind, Tea, Ti (roots and leaves), Wax jambu.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0 plus Bananacide (Banana only).

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in banana, guava, papaya, and plantain crops. Allow a minimum of 14 days between last application and harvest for any other tropical or subtropical tree fruit. Allow a minimum of 28 days between last application and harvest in coffee crops. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

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**TREE VINE AND SHRUB CROPS 56****Bananacide (Banana only)**

**USE INSTRUCTIONS:** This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus as well as non-infected banana plants to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 0.04 fluid ounce (1 mL) of this product's concentrate per 2 to 3 inches of pseudostem diameter. Make the injection at least one foot above the ground, except for very small plants, which should be injected vertically into the top. Any subsequent regrowth must also be destroyed. All plants and mats (or units) adjacent (within a 4-foot radius) to a treated mat shall be mechanically destroyed.

For control of the Banana Bunchy Top Virus, it is critical that the grower follow a strict control program involving monitoring for diseased plants, spraying to control the aphid vector, and destruction of all infected mats (or units). An infected plant may not show symptoms of the banana bunchy top virus for up to 125 days, therefore it is critical that the entire mat (or unit) containing the diseased plant be destroyed immediately.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 0.5 fluid ounce (15 mL) of this product's concentrate per mat (or unit). Remove all fruit from plants and mats (or units) prior to treatment. Do not harvest any fruit or plant materials from treated mats (or units) following injection. Do not allow livestock to consume treated plant materials. Following transplant of new banana plants into treated areas, allow plants to become established for 3 months before applying this product for general weed control.

**9.9 Vine Crops**

**LABELED CROPS:** Grapes (raisin, table, wine), Hops, Kiwi, Passion fruit.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

Applications should not be made when green shoots, canes or foliage are in the spray zone.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury, or make applications with shielded sprayers or wiper equipment.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 14 days between last application and harvest in vine crops. Do not use selective equipment in kiwi.

**10.0 PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS****10.1 Alfalfa, Clover, and Other Forage Legumes**

**LABELED CROPS:** Alfalfa, Clover, Kenaf, Kudzu, Lespedeza, Leucaena, Lupin, Saintpaul, Trefoil, Velvet bean, Vetch (all types).

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Preharvest (except Kenaf and Leucaena), Spot Treatment, Over-the-Top Wiper Applications, Renovation.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting crops listed in this section. Applications must be made prior to emergence of the crop.

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application. The crop may be fed or grazed as soon as it reaches sufficient maturity.

**Preharvest (except Kenaf and Leucaena)**

**USE INSTRUCTIONS:** This product may be used in declining stands or any stand where severe crop injury or destruction is acceptable. This product will control annual and perennial weeds, including quackgrass, when applied prior to crop harvest. Applications may be made at any time of the year. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control.

**PRECAUTIONS, RESTRICTIONS:** Make only one application to an existing crop stand per year. The treated crop and weeds can be harvested and fed to livestock according to the intervals below.

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	Maximum Single Application Rate*	Minimum Interval between application and harvest/grazing
Alfalfa	44 fluid ounces	36 hours
All other labeled legumes above	32 fluid ounces	3 days

\* By aerial or ground broadcast spray

This application may destroy an alfalfa stand and may severely injure or destroy other labeled crops such as clover. Preharvest application is not recommended for alfalfa grown for seed, as a reduction in germination or vigor may occur.

**Spot Treatment, Over-the-Top Wiper Applications**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators. For wipers, see the "Wiper Applicators" in the "Selective Equipment" section of this label. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than 10 percent of the total field area should be treated at one time. Remove domestic livestock before application and wait 3 days after application before grazing livestock or harvesting.

**Renovation**

**USE INSTRUCTIONS:** This product may be applied as a broadcast spray to renovate existing stands of alfalfa, clover, and other labeled forage legumes. If the crop is to be grazed or harvested for feed, use up to 44 fluid ounces per acre in alfalfa and up to 32 fluid ounces per acre in other labeled legumes. For complete removal of established stands of clover, it may be necessary to use the higher treatment rates listed in the "PERENNIAL WEEDS RATE SECTION".

**PRECAUTIONS, RESTRICTIONS:** When treatment rates of 44 fluid ounces per acre for alfalfa or 32 fluid ounces per acre for other forage legumes are used, remove domestic livestock before application and wait 3 days after application before reintroduction. If treatment rates above these levels are necessary, do not graze or harvest treated foliage for livestock feed. Crops listed for treatment in this label may be planted into the treated area at

any time; for other crops, wait 30 days between application and planting.

**10.2 Conservation Reserve Program (CRP)**

**TYPES OF APPLICATIONS:** Renovation (rotating out of CRP), Site Preparation, Postemergence Weed Control in Dormant CRP Grasses, Over-the-Top Wiper Applications.

**Renovation (Rotating out of CRP), Site Preparation**

**USE INSTRUCTIONS:** This product may be used to prepare CRP land for crop production. Refer to Federal, state or local use guides for CRP renovation recommendations. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting.

**Postemergence Weed Control in Dormant CRP Grasses, Over-the-Top Wiper Applications**

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 8 to 11 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 2 quarts per acre per year onto CRP grasses.

**10.3 Grass Seed or Sod Production**

**LABELED CROPS:** Any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in this label under "Cereal and Grain Crops".

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Renovation, Removal of Established Stands, Site Preparation, Shielded

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Sprayers, Over-the-Top Wiper Applications, Spot Treatment, Creating Rows in Annual Ryegrass.

**Preplant, Preemergence, At-Planting, Renovation, Removal of Established Stands, Site Preparation**

**USE INSTRUCTIONS:** This product controls most existing vegetation prior to renovating turf or forage grass seed areas or establishing turf grass grown for sod. It may also be used to destroy remaining undesired grass vegetation when production fields are converted to alternate species or crops. Make applications before, during, or after planting or for renovation. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as Bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates up to 3.3 quarts per acre may be used to totally remove established stands of tough to kill grass species.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting. Applications must be made prior to the emergence of the crop to avoid crop injury.

**Shielded Sprayers**

**USE INSTRUCTIONS:** Apply 22 to 64 fluid ounces of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aid in shielded sprayer applications.

Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields. For additional instructions, see "Hooded and Shielded Applicators" in the "Selective Equipment" section.

**PRECAUTIONS, RESTRICTIONS:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

**Over-the-Top Wiper Applications**

**USE INSTRUCTIONS:** Applicators should be adjusted so that the wiper contact point is at least 2 inches above the desirable vegetation. Weeds should be a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when height of weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. For additional instructions, see "Wiper Applicators" in the "Selective Equipment" section.

**PRECAUTIONS, RESTRICTIONS:** Contact of the herbicide solution with desirable vegetation may result in damage or destruction.

**Spot Treatment**

**USE INSTRUCTIONS:** Use a 1.0-percent solution.

**PRECAUTIONS, RESTRICTIONS:** Apply this product prior to heading of grasses grown for seed. The crop receiving the spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason. Hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**Creating Rows in Annual Ryegrass**

**USE INSTRUCTIONS:** Use 11 to 22 fluid ounces of this product per acre. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height.

**PRECAUTIONS, RESTRICTIONS:** Set nozzle heights to allow the establishment of the desired row spacing while preventing spray droplets, spray fines, or drift to contact the ryegrass plants not treated. Use of low-pressure nozzles, or drop nozzles designed to target the application over a

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narrow band are recommended.

Grower assumes all responsibility for crop losses from misapplication.

**10.4 Pastures**

**LABELED CROPS:** Any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in this label under "Cereal and Grain Crops", including Bahiagrass, Bermudagrass, Bluegrass, Brome, Fescue, Guinea grass, Kikuyugrass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass.

**TYPES OF APPLICATIONS:** Preplant, Preemergence, Pasture Renovation, Spot Treatment, Over-the-Top Wiper Applications, Postemergent Weed Control (Broadcast Treatments).

**Preplant, Preemergence, Pasture Renovation**

**USE INSTRUCTIONS:** This product may be applied prior to planting or emergence of forage grasses. In addition, this product may be used to control perennial pasture species listed on this label prior to re-planting.

**PRECAUTIONS, RESTRICTIONS:** If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding of livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Crops listed for treatment in this label may be planted into the treated area at any time; for other crops, wait 30 days between application and planting.

**Spot Treatment, Over-the-Top Wiper Applications**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatments or wiper application methods using rates of 2 quarts per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper application are made using rates above 2 quarts per acre, no more than 10 percent of the total pasture may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting.

**Postemergent Weed Control (Broadcast Treatments)**

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of annual weeds and undesirable vegetation in pastures. For selective applications with broadcast spray equipment, apply 8 to 11 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Use of higher application rates will cause stand reductions. Do not apply more than 2 quarts per acre per year onto pasture grasses except for renovation uses (see instructions above). If replanting is needed due to severe stand reduction, applications must be made at least 30 days prior to planting any crop not listed for treatment in this label.

**10.5 Rangelands****TYPES OF APPLICATIONS:** Postemergence.

This product will control or suppress many annual weeds growing in perennial cool and warm-season grass rangelands.

Preventing viable seed production is key to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years should eliminate most of the viable seeds.

Grazing of treated areas should be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.

**USE INSTRUCTIONS:** Apply 8 to 11 fluid ounces of this product per acre to control or suppress many weeds, including downy brome, cheatgrass, cereal rye and jointed goatgrass in rangelands. Apply when most brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Fall applications are possible, and recommended, where spring moisture is usually limited and fall

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germination allows for good weed growth.

For medusahead, apply 11 fluid ounces of this product per acre at the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Controlled burning may be useful in eliminating the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a burn. Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses in medusahead-dominated rangelands.

**PRECAUTIONS, RESTRICTIONS:** Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off. Do not use ammonium sulfate when spraying rangeland grasses with this product. No waiting period between treatment and feeding of livestock grazing is required. Do not apply more than 2 quarts per acre per year.

**11.0 ROUNDUP READY CROPS**

The following instructions or those separately published on Monsanto Supplemental labeling include all applications which can be made onto the specified Roundup Ready crops during the complete cropping season. Do NOT combine these instructions with other recommendations made for crops that do not contain a Roundup Ready gene, in the "ANNUAL AND PERENNIAL CROPS (Alphabetical)" section of this label, unless otherwise directed in this product label, supplemental labeling or fact sheets published separately by Monsanto.

**MONSANTO COMPANY RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON CROPS DESIGNATED AS CONTAINING A ROUNDUP READY GENE.**

Applying this product to crops that are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants that do not contain the Roundup Ready gene, since severe injury or destruction will result.

The Roundup Ready designation indicates that the crop variety contains a patented gene that provides tolerance to this product. Information on Roundup Ready crops may be obtained from your seed supplier or Monsanto representative. Roundup Ready crops must be purchased from

an authorized licensed seed supplier.

**NOTE:** Roundup Ready seed, and the method of selectively controlling weeds in a Roundup Ready crop by applying glyphosate to the weeds and Roundup Ready crop are protected under several U.S. Patents, including 5,352,605 and 5,633,435. A license to use Roundup Ready seed must be obtained prior to use. Monsanto retains ownership of the gene and process technologies, and the Purchaser of the seed receives the right to use the licensed genes and technologies subject to the limited use license conditions. Seed containing the Roundup Ready trait cannot be used for research and demonstration, reverse engineering or in connection with herbicide registration. Progeny seed containing the Roundup Ready trait cannot be saved for replanting or transferred to others for replanting. Contact your Authorized Monsanto Retailer for information on obtaining a limited use license.

For ground applications with broadcast equipment, apply this product in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment use flat spray nozzles. Check for even distribution of spray droplets.

For aerial applications apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for procedures to avoid spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

For proper stewardship of aerial applications over-the-top of Roundup Ready crops, Monsanto recommends that growers and applicators read and follow all precautions and procedures contained in the use guide "A Guide to On-Target Aerial Application" available by calling 1-800-ROUNDUP (1-800-768-6387).

**ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.**

See the "MIXING" and "APPLICATION EQUIPMENT AND TECHNIQUES" sections of this label for additional directions and restrictions on the application of this product.

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Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers may result in reduced weed control or crop injury and are NOT recommended for over-the-top applications of this product unless otherwise noted in this product label, supplemental labeling or fact sheets published separately by Monsanto.

Unless otherwise directed, nonionic surfactant may be added to the spray solution for applications to Roundup Ready crops. The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Refer to individual crops within this section of this label or separately published supplemental labeling for additional precautions or restrictions. In addition, always read and carefully observe cautionary statements and other information appearing on the surfactant label.

Ammonium sulfate may be mixed with this product for applications to Roundup Ready crops. Refer to the "MIXING" section for use instructions for ammonium sulfate.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product. Follow the cleaning procedures specified on the label of the product(s) previously used. THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.

**NOTE:** The following recommendations are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burndown treatment of this product is recommended to control existing weeds prior to crop emergence. Some weeds, such as black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sandbur, annual morningglory, woolly cupgrass, shattercane, wild proso millet, burcucumber, and giant ragweed with multiple germination times or suppressed (stunted) weeds may require a second application of this product for complete control. The second application should be made after some regrowth has occurred and at least 10 days after a previous application of this product.

**11.1 Canola-Roundup Ready**

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence.

**DO NOT USE THIS PRODUCT ON CANOLA CONTAINING A ROUNDUP READY GENE PLANTED IN THE FOLLOWING STATES: ALABAMA, DELAWARE, FLORIDA, GEORGIA, KENTUCKY, MARYLAND, NEW JERSEY, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, VIRGINIA AND WEST VIRGINIA, EXCEPT FOR USES IN WILDLIFE FOOD PLOTS THAT WILL NOT BE HARVESTED FOR HUMAN OR LIVESTOCK FOOD.**

Maximum Allowable Combined Application Quantities Per Season	
Preplant, At-Planting,	
Preemergence applications	44 fluid ounces per acre
Total in-crop application from emergence to 6-leaf stage	22 fluid ounces per acre

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting canola.

**Postemergence**

**USE INSTRUCTIONS:** This product may be applied postemergence to Roundup Ready Spring canola from emergence through the 6-leaf stage of development. Applications made during bolting or flowering may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

**Weeds Controlled:** For specific rates of application and instructions, refer to the "ANNUAL" and "PERENNIAL WEEDS RATE SECTIONS" in this label.

**Single Application—**Apply 11 to 16 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications that may result in temporary yellowing, delayed flowering, and or growth reduction. Similar injury may result when applications of more than 11 fluid ounces per acre are applied after the 4-leaf stage.

**Sequential Application—**Apply 11 fluid ounces per acre to 1- to 3-leaf

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canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential applications are recommended for early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass or when controlling weeds with multiple application times.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. No more than two over-the-top broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total in-crop application should not exceed 22 fluid ounces per acre. Allow a minimum of 60 days between last application and canola harvest.

**NOTE:** The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Always read and carefully observe cautionary statements and other information appearing on the surfactant label.

**11.2 Corn-Roundup Ready**

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence (in-crop), Spot Treatment, Preharvest, Post-Harvest.

**Maximum Allowable Combined  
Application Quantities Per Season**

Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
In-crop applications	
Roundup Ready Corn from emergence through V8 or 30 inches	44 fluid ounces per acre (22 fluid ounces per acre per application)
Roundup Ready Corn 2 from emergence through 48 inches	64 fluid ounces per acre (32 fluid ounces per acre per application)
Preharvest application	22 fluid ounces per acre See PRECAUTIONS, RESTRICTIONS section for Preharvest applications.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied alone or in a tank-mixture before, during or after planting corn.

**TANK MIXTURES:** This product may be tank mixed with Bullet®, Degree, Degree-Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, Lariat, Lasso or Micro-Tech at 50 to 100 percent of labeled rate. Refer to the specific product label and observe all precautions and limitations on the label for any preemergence herbicide application, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines—the more restrictive requirements apply.

**NOTE:** For maximum weed control, a postemergence (in-crop) application of this product should be applied following the use of less than labeled rates of the preemergence residual products listed above.

**Postemergence (in-crop)**

**USE INSTRUCTIONS:** This product may be applied alone or in tank mixtures postemergence (in-crop) to corn hybrids designated as Roundup Ready Corn or Roundup Ready Corn 2. When applied as directed, this product controls labeled annual grass and broadleaf weeds. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. A postemergent application of 16 to 22 fluid ounces per acre of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop, generally 4 inch tall weeds or less. If new flushes of weeds occur, a sequential application of this product at 16 to 22 fluid ounces per acre will control the labeled grasses and broadleaf weeds.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label booklet for general precautionary instructions for use in Roundup Ready Crops. Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage or grain. The use of additional surfactant or other additives, including fertilizers and micro-nutrients in the spray solution may result in crop injury and reduced yield and is not recommended for over-the-top applications of this product to Roundup Ready Corn or Roundup Ready Corn 2, unless otherwise directed in supplemental labeling or fact

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sheets published separately by Monsanto.

**Specific use instructions:**

• **Roundup Ready Corn:** This product may be applied over-the-top broadcast or with drop nozzles postemergence to Roundup Ready Corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first. Drop nozzles are recommended for optimum spray coverage and weed control when corn height is 24 to 30 inches.

**PRECAUTIONS, RESTRICTIONS:** Single in-crop applications of this product are not to exceed 22 fluid ounces per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 44 fluid ounces per acre per growing season.

• **Roundup Ready Corn 2:** This product may be applied over-the-top broadcast or with drop nozzles postemergence to Roundup Ready Corn 2 from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches (free standing), whichever comes first. Drop nozzles are recommended for optimum spray coverage and weed control when corn height is 24 to 30 inches. For corn heights 30 to 48 inches (free standing), apply this product only using ground application equipment equipped with drop nozzles aligned to avoid spraying into the whorls of the corn plants.

**PRECAUTIONS, RESTRICTIONS:** Single in-crop applications of this product should not exceed 32 fluid ounces per acre. Sequential in-crop applications of this product from emergence through 48 inches in height must not exceed a total of 64 fluid ounces per acre per growing season.

**Postemergence tank mixtures:** This product may be applied in tank mixture with Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, and Micro-Tech at 50 to 100 percent of their labeled rate. This product may be applied in tank mixture with Permit, Yukon, and atrazine at their labeled rates. Refer to the specific product label and observe all precautions and limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines—the more restrictive requirements apply. The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water

may increase the performance of this product under hard water conditions, drought conditions or when tank mixed with Degree Xtra, Harness Xtra, Harness Xtra 5.6L, Bullet, Micro-Tech or Atrazine herbicides.

Maximum Height of Corn For Application	
<b>Tank-Mix Partner</b>	
Degree Degree Xtra Harness Harness Xtra Harness Xtra 5.6 L	11 inches
Bullet* Micro-Tech*	5 inches
Permit Yukon	30 inches
Atrazine	12 inches

\*Bullet and Micro-Tech are not registered for use as a postemergence application in Texas.

**Preharvest**

**USE INSTRUCTIONS:** This product can be applied preharvest at use rates up to 22 fluid ounces per acre. Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest or feeding of corn stover or grain. In Roundup Ready Corn 2, a preharvest application may only be made if the combined total of previously applied over-the-top or drop nozzle applications does not exceed 44 fluid ounces of this product per acre.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

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**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

**11.3 Cotton-Roundup Ready**

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Selective Equipment (hooded sprayers), Preharvest.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton.

**Selective Equipment (Hooded sprayers)**

**USE INSTRUCTIONS:** This product may be applied using precision hooded sprayers at rates up to 22 fluid ounces per acre per application to Roundup Ready cotton through layby. For best results, make applications while weeds are small (less than 3 inches).

**PRECAUTIONS, RESTRICTIONS:** See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

**Preharvest**

**USE INSTRUCTIONS:** This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20 percent boll crack. Up to 44 fluid ounces of this product may be applied using either aerial or ground spray equipment. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Do not apply this product to cotton grown for seed, as a reduction in germination or vigor may occur. **DO NOT ADD SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR APPLICATIONS MADE AT A PREHARVEST TIMING IN COTTON.**

**ATTENTION: USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL**

**DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON, HOWEVER, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.**

**11.4 Soybeans-Roundup Ready**

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence, Preharvest, Post-Harvest.

Maximum Allowable Combined Application Quantities Per Season	
Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total in-crop applications from cracking throughout flowering	64 fluid ounces per acre
Maximum preharvest application rate	22 fluid ounces per acre

**PRECAUTIONS/RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting soybeans.

**Postemergence**

**USE INSTRUCTIONS:** When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Applications of this product can be made in Roundup Ready soybeans from emergence (cracking) throughout flowering. Refer to the "ANNUAL

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**WEEDS RATE SECTION** in this label for rate recommendations for specific annual weeds. In general, an initial application of 22 fluid ounces per acre on 2 to 8 inch tall weeds is recommended. Weeds will generally be 2 to 8 inches tall, 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 44 fluid ounces per acre in any single in-crop application for control of annual weeds and where heavy weed densities exist.

A 22- to 44-fluid-ounce per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: Bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, maretail (horseweed), nutsedge, quackgrass, rhizoma johnsongrass, redvine, trumpet creeper, swamp smartweed and wiostem mufly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this may be necessary to control late flushes of weeds. IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY SOYBEAN CROP. To control giant ragweed, it is recommended that 22 fluid ounces per acre of this product be applied when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for a sequential application.

**PRECAUTIONS, RESTRICTIONS:** The combined total application from crop emergence through harvest must not exceed 64 fluid ounces per acre. The maximum rate for any single in-crop application is 44 fluid ounces per acre. The maximum combined total of this product that can be applied during flowering is 44 fluid ounces per acre.

**NOTE:** The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Always read and carefully observe cautionary statements and other information appearing on the surfactant label.

**Preharvest**

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans. Up to 22 fluid ounces per acre of this prod-

uct can be applied by aerial or ground application.

**PRECAUTIONS, RESTRICTIONS:** Care should be taken to avoid excessive seed shatter loss due to ground application equipment. Allow a minimum of 14 days between final application and harvest of soybean grain or feeding of soybean grain, forage or hay.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of Roundup Ready soybeans. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**12.0 NON-CROP USES AROUND THE FARMSTEAD**

**TYPES OF APPLICATIONS:** General Weed Control, Trim-and-Edge, Greenhouse/Shadehouse, Chemical Mowing, Cut Stump, Habitat Management.

**12.1 General Weed Control and Trim-and-Edge**

**USE INSTRUCTIONS:** This product may be used to control annual weeds, perennial weeds and woody brush which are found in any part of the farmstead, including building foundations, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 22 fluid ounces per acre of this product when weeds are less than 6 inches tall, 32 fluid ounces per acre when weeds are 6 to 12 inches tall and 44 fluid ounces per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 44 fluid ounces to 3.3 quarts per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, hand-

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guns or other high-volume spray-to-wet applications, see the "ANNUAL WEEDS—HAND-HELD OR HIGH VOLUME EQUIPMENT" section of this label for recommended rates.

Arsenal®	Plateau®
Banvel/Clarity	Princep® DF
Barricade™ 65WG	Princep Liquid
Diuron	Ronstar 50 WP
Endurance®	Sahara
Escort®	Simazine
Karmex DF	Surflan®
Krovar t DF	Telar®
Oust®	Vanquish®
Pendulum® 3.3 EC	2,4-D
Pendulum WDG	

This product plus dicamba tank mixtures may not be applied by air in California.

**12.2 Greenhouse/  
Shadehouse**

This product may be used to control weeds in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

**12.3 Chemical Mowing**

**USE INSTRUCTIONS:** This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 4 fluid ounces of this product per acre when treating Kentucky bluegrass. Use 4 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, bahiagrass or quackgrass covers. Use 11 fluid ounces of this product per acre when treating Bermudagrass. Use 44 fluid ounces of this product per acre when treating torpedograss or paragrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

**PRECAUTIONS, RESTRICTIONS:** Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

**12.4 Cut Stump**

**TYPES OF APPLICATION:** Treating cut stumps in any non-crop site listed on this label

**USE INSTRUCTIONS:** This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion

Alder	Reed, giant
Eucalyptus	Saltcedar
Madrone	Sweetgum
Oak	Tan oak
Pepper, Brazilian	Willow
Pine, Austrian	

**PRECAUTIONS, RESTRICTIONS:** Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

**12.5 Habitat Management**

**TYPES OF USES:** Habitat Restoration and Maintenance, Wildlife Food Plots.

**Habitat Restoration and Maintenance**

**USE INSTRUCTIONS:** This product may be used to control exotic and

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other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement.

### Wildlife Food Plots

**USE INSTRUCTIONS:** This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species, including Roundup Ready canola, may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage. For specific product application instructions in Roundup Ready canola wildlife food plots, see the "Canola-Roundup Ready" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Do not process treated Roundup Ready canola seed from wildlife food plots for food or domestic livestock feed. Do not graze or feed treated Roundup Ready canola from wildlife food plots to domestic livestock. There are no rotational restrictions for planting any wildlife food species or for allowing native species to repopulate the area following applications of this product.

## 13.0 INDUSTRIAL, TURF AND ORNAMENTAL

Detailed instructions follow alphabetically, by site.

Unless otherwise specified, applications may be made to control any weeds listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" of this label. Refer also to the "Selective Equipment" section.

### 13.1 Cut Stump

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species, some of

which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder	Saltcedar
Eucalyptus	Sweetgum
Madroña	Tan oak
Oak	Willow
Reed, giant	

**DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP.** Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

## 13.2 General Non-Crop Areas, Industrial Sites

Use in areas such as airports, apartment complexes, ditch banks, dry ditches, dry canals, fencerows, golf courses, industrial sites, lumber yards, manufacturing sites, office complexes, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, substations, warehouse areas, other public areas, and similar industrial and non-crop sites.

### General Weed Control, Trim-and-Edge, Bare Ground

This product may be used in general non-crop areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in non-crop sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds

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growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects. Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites. Refer to these product's labels for approved non-crop sites and application rates.

Arsenal	Pendulum 3.3 EC
Clarity	Pendulum WDG
Barricade 65WG	Plateau
Diuron	Princep DF
Endurance	Princep Liquid
Escort	Ronstar™ SOWP
Garlon™ 3A	Sahara®
Garlon 4	Simazine
Karmex DF	Surflan
Krovar I DF	Telar
Manage®	Vanquish
Oust	2,4-D

This product plus dicamba tank mixtures may not be applied by air in California.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 22 to 44 fluid ounces of this product plus 2 to 4 ounces of Oust per acre.

Bahiagrass	Fescue, tall
Bermudagrass	Johnsongrass
Broomsedge	Portulaca
Dallisgrass	Quackgrass
Doek, curly	Vaseygrass
Dogfennel	Vervain, blue

**Chemical Mowing - Perennials**

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 4 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 4 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

**Chemical Mowing - Annuals**

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 3 to 4 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

***Bromus* Species and Medusahead in Pastures and Rangelands**

***Bromus* species.** This product may be used to treat downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*) and cheatgrass (*Bromus setaceus*) found in industrial, rangeland and pasture sites. Apply 6 to 11 fluid ounces of this product per acre on a broadcast basis.

For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses can become reestablished on the site.

**Medusahead.** To treat medusahead, apply 11 fluid ounces of this product per acre as soon as plants are actively growing, and prior to the 4-leaf stage. Applications may be made in the fall or spring.

Applications to brome and medusahead may be made using ground or aerial equipment. Aerial applications for these uses may be made using



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fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre. When applied as directed in this label, there are no grazing restrictions.

**Dormant Turfgrass**

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant Bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring greenup.

Apply 6 to 44 fluid ounces of this product per acre. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 11 fluid ounces per acre may result in injury or delayed greenup in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "Roadsides" section of this label, which gives rates for dormant Bermudagrass and bahiagrass treatments.

**Actively Growing Bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. DO NOT apply more than 11 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "Roadsides" section of this label, which gives rates for actively growing Bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

**Turfgrass Renovation, Seed, Sod Production**

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as

Bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

**13.3 Habitat Management****Habitat Restoration and Management**

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

**Wildlife Food Plots**

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

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**INDUSTRIAL AND NON-CROP 84****13.4 Injection and Frill  
(Woody Brush and Trees)**

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 0.04 fluid ounce (1 mL) of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50- to 100-percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from killed or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100-percent concentration of this product. For best results, application should be made during periods of active growth and after full leaf expansion. This product will control many species, some of which are listed below:

<b>Control</b>	<b>Partial Control</b>
Oak	Blackgum
Poplar	Dogwood
Sweetgum	Hickory
Sycamore	Maple, red

**13.5 Ornamentals, Plant Nurseries, and Christmas Trees****Post-Directed, Trim-and-Edge**

This product may be used as a post-directed spray around established woody ornamental species such as arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, Douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce and yew. This product may also be used to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting.

Desirable plants may be protected from the spray solution by using

shields or coverings made of cardboard or other impermeable material. UNLESS OTHERWISE DIRECTED, THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

**Site Preparation**

This product may be used prior to planting any ornamental, nursery or Christmas tree species.

**Wiper Applicators**

This product may be used through wick or other suitable wiper applicators to control or partially control undesirable vegetation around established eucalyptus or poplar trees. See the "Selective Equipment" section of this label for further information about the proper use of wiper applicators.

**Greenhouse/Shadehouse**

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

**13.6 Parks, Recreational and Residential Areas**

This product may be used in parks, recreational and residential areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around trees, fences, and paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation. This product may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area in ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

All of the instructions in the "General Non-Crop Areas And Industrial Sites" section apply to park and recreational areas.

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**INDUSTRIAL AND NON-CROP 86****13.7 Railroads**

All of the instructions in the "General Non-Crop Areas And Industrial Sites" section apply to railroads.

**Bare Ground, Ballast and Shoulders, Crossings, Spot Treatment**

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites, for ballast, shoulder, spot, bare ground and crossing treatments:

Arsenal	Krovar I DF
Clarity	Oust
Diuron	Sahara
Escort	Spike®
Garlon 3A	Telar
Garlon 4	Vanquish
Hyvar™ X	2,4-D

**Brush Control**

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 2.5 to 7 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a 0.7- to 1.5-percent solution of this product when using high-volume spray-to-wet applications. Apply a 4- to 7-percent solution of this product when using low volume directed sprays for spot treatment. This product may be mixed with the following products for enhanced control of woody brush and trees:

Arsenal	Garlon 4
Escort	Tordon® K
Garlon 3A	

**Bermudagrass Release**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 11 to 32 fluid ounces of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank mixed with Oust. If tank mixed, use no more than 11 to 32 fluid ounces of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Blackberry	Johnsongrass
Bluestem, silver	Poorjoe
Broomsedge	Raspberry
Dallisgrass	Trumpet creeper
Dewberry	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may occur.

**INDUSTRIAL AND NON-CROP 88****13.8 Roadsides**

All of the instructions in the "General Non-Crop Areas And Industrial Sites" section apply to roadsides.

**Shoulder Treatments**

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

**Guardrails and Other Obstacles to Mowing**

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

**Spot Treatment**

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for such non-crop treatments:

Clarity	Princep DF
Diuron	Princep Liquid
Endurance	Ronstar 50 WP
Escort	Sahara
Krovar DF	Simazine
Oust	Surflan
Outrider®	Telar
Pendulum 3.3 EC	Vanquish
Pendulum WDG	2,4-D

See the "General Non-Crop Areas And Industrial Sites" section of this label for general instructions for tank mixing.

**Release of Bermudagrass or Bahiagrass****Dormant Applications**

This product may be used to control or partially control many winter

annual weeds and tall fescue for effective release of dormant Bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring green-up. This product may also be tank mixed with Outrider® or Oust® for residual control. Tank mixtures of this product with Oust may delay green-up.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 6 to 44 fluid ounces of this product in a tank mixture with 0.75 to 1.3 ounces Outrider herbicide per acre. Read and follow all label directions for Outrider herbicide.

Apply 6 to 44 fluid ounces of this product per acre alone or in a tank mixture with 0.25 to 1 ounce per acre of Oust. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add no more than 1 ounce of Oust per acre on Bermudagrass and no more than 0.5 ounce of Oust per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

**Actively Growing Bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 11 to 32 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank mixed with Outrider for control or partial control of Johnsongrass and other weeds listed in the Outrider label. Use 6 to 22 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider.

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**INDUSTRIAL AND NON-CROP 90**

Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height.

This product may be tank mixed with Oust. If tank mixed, use no more than 11 to 22 fluid ounces of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Bluestem, silver	Johnsongrass
Broomsedge	Portulaca
Dallisgrass	Trumpet creeper
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not recommended, since severe injury may occur.

**Actively Growing Bahiagrass**

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 2 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

This product may be used for control or partial control of Johnsongrass and other weeds listed on the Outrider label in actively growing bahiagrass. Apply 1 to 3.3 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider per acre. Use the higher rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well established bahiagrass.

A tank mixture of this product plus Oust may be used. Apply 4 fluid ounces

of this product plus 0.25 ounce of Oust per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

**14.0 ANNUAL WEEDS RATE SECTION**

When water carrier volumes are between 16 and 40 gallons per acre for ground applications and between 6 and 15 gallons per acre for aerial applications, the following use rates will control the annual weeds listed in the table below:

- 22 fluid ounces per acre—grass and broadleaf annual weeds less than 6 inches in height or circumference and vines less than 3 inches in length.
- 32 fluid ounces per acre—grass and broadleaf annual weeds 6 to 12 inches in height or circumference and vines 3 to 6 inches in length.
- 44 fluid ounces per acre—grass and broadleaf annual weeds greater than 12 inches in height or circumference and vines greater than 6 inches in length.

**WHEN WATER CARRIER VOLUMES ARE BETWEEN 3 AND 15 GALLONS PER ACRE FOR GROUND APPLICATIONS AND BETWEEN 3 AND 5 GALLONS PER ACRE FOR AERIAL APPLICATIONS, USE THE RATES SPECIFIED FOR INDIVIDUAL WEEDS AS FOLLOW IN THE "ANNUAL WEEDS RATE TABLE" (Alphabetically by Species).**

Apply to actively growing annual weeds. Annual weeds are generally easiest to control when they are small.

Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

Maximum size refers to the maximum plant height, length of runners for vines or circumference of rosette plants in inches.

Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.

For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

This product may be used up to 44 fluid ounces per acre where heavy weed densities exist.

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**ANNUAL WEEDS RATE SECTION 92****ANNUAL WEEDS RATE TABLE**

WEED SPECIES	RATE (fluid ounces per acre)				
	11	16	22	27	32
	Maximum size (in inches)				
Amurensis, purple	3	6	12	-	18
Annoda, spurred	-	2	3	5	8
Barley	18	18	-	-	-
Barnyardgrass	-	3	6	7	9
Bassia, fireball	-	-	6	-	-
Beggarweed, Florida	-	5	8	-	-
Bitertress	12	20	-	-	-
Bluegrass, annual	10	-	-	-	-
Bluegrass, bulbous	6	-	-	-	-
Brome, downy 12	6	12	-	-	-
Brome, Japanese	6	12	24	-	-
Brownop panicum	6	8	12	-	24
Buckhorn, wild	-	1	2	-	-
Burcucumber	-	6	12	-	18
Buttercup	12	20	-	-	-
Carolina geranium	-	-	4	-	9
Carpetweed	-	6	12	-	-
Cheat	6	20	-	-	-
Chenop	20	-	-	-	-
Chickweed	-	12	18	-	-
Cocklebur	12	18	24	-	36
Copperleaf, hophornbeam	-	2	4	-	6
Copperleaf, Virginia	-	2	4	-	6
Coreopsis, plains	-	6	12	-	18
Corn, volunteer	6	12	20	-	-
Corn speedwell	12	-	-	-	-
Crookgrass	3	6	12	-	-
Crowfootgrass	-	-	6	-	12
Cutleaf evening primrose	-	-	3	-	6
Devilsclaw (unicorn plant)	-	3	6	-	-
Dwarf dandelion	12	-	-	-	-
Eastern manna grass	8	12	-	-	-
Echino	-	4	8	12	-

Fall panicum	4	-	6	-	12
Fleabane, common	-	20	-	-	-
Fiddleneck	-	6	12	-	-
Field pennycress	6	12	-	-	-
Filaree	-	-	6	-	12
Fleabane, annual	6	20	-	-	-
Fleabane, hairy (Conyza bonariensis)	-	-	6	-	10
Fleabane, rough	3	6	12	-	-
Florida pusley	-	-	4	-	6
Forssk. giant, broom, yellow	6	12	20	-	-
Forssk. Carolina	10	-	-	-	-
Forssk. green	12	-	-	-	-
Goatgrass, jointed	6	12	-	-	-
Goatsgrass	-	3	6	-	12
Grain sorghum (milo)	6	12	20	-	-
Groundcherry	-	3	6	-	9
Groundsel, common	-	6	10	-	-
Hemp sesbania	-	2	4	6	8
Henbit	-	-	6	-	12
Horseweed/Marestail (Conyza canadensis)	-	6	12	-	18
Itchgrass	6	8	12	-	18
Johnsonweed	-	-	12	-	18
Johnsongrass, seedling	6	12	18	-	24
Juniper	-	3	6	7	9
Knobweed	-	-	6	-	12
Kochia	-	3	6	12	-
Lambsquarters	-	6	12	-	20
Little barley	6	12	-	-	-
London rocket	6	-	24	-	-
Mayweed	-	2	6	12	18
Morningglory, annual (Ipomoea spp)	-	-	3	-	6
Mustard, blue	6	12	18	-	-
Mustard, tansy	6	12	18	-	-

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**ANNUAL WEEDS RATE SECTION 94****ANNUAL WEEDS RATE TABLE**

WEED SPECIES	RATE (fluid ounces per acre)				
	11	16	22	27	32
	Maximum size (in inches)				
Mustard, tumble	6	12	18	-	-
Mustard, wild	6	12	18	-	-
Nightshade, black	-	4	6	-	12
Nightshade, hairy	-	4	6	-	12
Oats	3	6	18	-	-
Pigweed species	-	12	18	24	-
Prickly lettuce	-	6	12	-	-
Purslane	-	-	3	-	6
Ragweed, common	-	6	12	-	18
Ragweed, giant	-	6	12	-	18
Red rice	-	-	4	-	-
Rye, volunteer/cereal <sup>1</sup>	6	18	18+	-	-
Ryegrass	-	-	6	-	12
Sandbur, field	6	12	-	-	-
Sandbur, longspine	6	12	-	-	-
Shattercane	6	12	20	-	-
Shepherd's-purse	6	12	-	-	-
Sicklepod	-	2	4	-	8
Signalgrass, broadleaf	-	3	6	7	9
Smartweed, lady's thumb	-	-	6	-	9
Smartweed, Pennsylvania	-	-	6	-	9
Southwestern annual	-	-	6	-	12
Spanishneedles	-	-	6	-	12
Speedwell, perovskia	12	-	-	-	-
Spangletop	6	12	20	-	-
Spurge, prostrate	-	6	12	-	-
Spurge, spotted	-	6	12	-	-
Spurry, umbrellae	6	-	-	-	-
Stinkgrass	-	12	-	-	-
Sunflower	12	18	-	-	-
Swinecress	-	5	12	-	-

Teaweed/Prickly sida	2	4	6	-	-
Texas panicum	6	8	12	-	24
Thistle, Russian <sup>2</sup>	-	6	12	-	-
Velvetleaf	-	-	6	-	12
Virginia pepperweed	-	18	-	-	-
Waterhemp	-	-	6	-	12
Wheat <sup>3</sup>	6	12	18	-	-
Wheat (overwintered)	-	6	12	-	18
Wild oats	3	6	18	-	-
Wild proso millet	-	6	12	-	18
Witchgrass	-	12	-	-	-
Woolly cupgrass	-	6	12	-	-
Yellow rocket	-	12	20	-	-

<sup>1</sup>For control of downy brome in no-till systems, use 16 fluid ounces per acre.

<sup>2</sup>Performance is better if application is made before this weed reaches the boot stage of growth.

<sup>3</sup>Use 16 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 22 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 22 fluid ounces followed by 22 fluid ounces of this product per acre.

<sup>4</sup>Do not treat kochia in the button stage.

<sup>5</sup>Control of Russian thistle may vary based on environmental conditions and spray coverage. Whenever possible, a tank mixture with 2,4-D as described below may improve control.

## 14.1 Annual Weeds—Tank Mixtures with 2,4-D, Dicamba or Tordon 22K

8 to 11 fluid ounces of this product plus 0.25 pound of dicamba or 0.5 pound of 2,4-D or 1 to 2 fluid ounces of Tordon 22K per acre will control the following weeds with the maximum height or length indicated: 6 inches—prickly lettuce, mare's tail/horseweed, morning glory, kochia (dicamba only) wild buckwheat (Tordon 22K only); 12 inches—cocklebur, lambsquarters, pigweed, Russian thistle (2,4-D only).

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**ANNUAL WEEDS RATE SECTION 96**

11 fluid ounces of this product plus 0.5 pound of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Ensure that the specific product is registered for application at the desired site. Some crop injury may occur if dicamba or Tordon 22K is applied within 45 days of planting.

DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.

**14.2 Annual Weeds—Hand-Held or High-Volume Equipment**

For control of weeds listed in the "ANNUAL WEEDS RATE SECTION", apply a 0.4-percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 0.7-percent solution.

For best results, use a 1.5-percent solution on harder-to-control perennials, such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods that result in less than complete coverage, use a 4-percent solution for annual and perennial weeds and a 4- to 7-percent solution for woody brush and trees.

**14.3 Annual Weeds—Tank Mixtures with Atrazine for Fallow and Reduced Tillage Systems**

For use only in Colorado, Kansas, Nebraska, Oklahoma, Oregon, South Dakota, and Washington. In Oregon and Washington, do not exceed 1 pound of atrazine per acre.

16 to 20 fluid ounces of this product plus 1 to 2 pounds of atrazine per acre will control the following weeds: barnyardgrass (requires 20 fluid ounces for control), downy brome, green foxtail, lambsquarters, prickly lettuce, lanky mustard, pigweed, field sandbur, slinkgrass, Russian thistle,

volunteer wheat, witchgrass and Kochia (add 0.12 pound of dicamba for control). Ensure that the specific atrazine product is registered for application at the desired site.

**15.0 PERENNIAL WEEDS RATE SECTION**

Apply to actively growing perennial weeds.

**NOTE:** If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage. Best results are obtained when soil moisture is adequate for active weed growth.

**PERENNIAL WEEDS RATE TABLE**  
(Alphabetically by Species)

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Alfalfa	1-1.5	3-10	1.5%
Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.			
Alligatorweed	3	3-20	1%
For partial control, apply when most of the plants are in bloom. Repeat applications will be required to achieve control.			
Amaze (barnyard)	—	—	1-1.5%
Apply as a spray-to-wet treatment.			
Barnyardgrass	2-3.3	3-20	1.5%
Bentgrass	1	10-20	1.5%

For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results.

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**PERENNIAL WEEDS RATE SECTION 98**

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
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Bermudagrass	2-3.3	3-20	1.5%
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For control, apply 3.3 quarts of this product per acre. For partial control, apply 54 fluid ounces per acre. Treat when Bermudagrass is actively growing and seed-heads are present. Retreatment may be necessary to achieve control.

Bermudagrass, water (knotgrass)	0.7-1	5-10	1.5%
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Apply 32 fluid ounces of this product in 5 to 10 gallons of water per acre. Apply when water Bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

Fall applications only. Apply 22 fluid ounces of this product in 5 to 10 gallons of water per acre. Follow fields should be tilled prior to application. Apply prior to frost on water Bermudagrass that is 12 to 18 inches in length.

This product is not registered in California for use on water Bermudagrass.

Bindweed, field	0.4-3.3	3-20	1.5%
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Do not treat field bindweed under drought stress as good soil moisture is necessary for active growth.

For control, apply 2.5 to 3.3 quarts of this product per acre west of the Mississippi River and 2 to 2.5 quarts east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Also for control, apply 44 fluid ounces of this product plus 0.5 pound of dicamba in 10 to 20 gallons of water per acre. Do not apply by air.

For suppression on irrigated agricultural land, apply 22 to 44 fluid ounces of this product plus 1 pound of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

In California only, apply 22 fluid ounces to 3.3 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 22 fluid ounces of this product in 3 to 10 gallons of water per

acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.

Bleedingheart, Kentucky	0.7-1.5	3-40	1.5%
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Blueweed, Texas	2-3.3	3-40	1.5%
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Apply 2.5 to 3.3 quarts of this product per acre west of the Mississippi River and 2 to 2.5 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Brackenfern	2-3	3-40	1%
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Apply to fully expanded fronds that are at least 18 inches long.

Bromegrass, smooth	0.7-1.5	3-40	1.5%
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Bursage, woolly-leaf	—	3-20	1.5%
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For control, apply 44 fluid ounces of this product plus 0.5 pound of dicamba per acre.

For partial control, apply 22 fluid ounces of this product plus 0.5 pound of dicamba per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

Canarygrass, reed	1.5-2	3-40	1.5%
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Cattail	2-3.3	3-40	1.5%
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Clover, red, white	2-3.3	3-20	1.5%
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Also for control, apply 11 to 22 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.

**PERENNIAL WEEDS RATE SECTION 99**

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**PERENNIAL WEEDS RATE SECTION 100**

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
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Cogongrass	2-3.3	10-40	1.5%
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Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to achieve control.

Dallisgrass	2-3.3	3-20	1.5%
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Dandelion	2-3.3	3-40	1.5%
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Also for control, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre.

Dock, curly	2-3.3	3-40	1.5%
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Also for control, apply 11 to 22 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.

Dogbane, hemp	3	3-40	1.5%
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Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall.

For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

Fescue (except tall)	2-3.3	3-20	1.5%
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Fescue, tall	0.7-2	3-40	1.5%
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Apply 64 fluid ounces of this product per acre when most plants have reached boot-to-early seedhead stage of development.

Fall applications only: Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 11 fluid ounces per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.

Guineagrass	1.5-2	3-40	1%
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Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment.

In Texas and ridge of Florida, use 44 fluid ounces for control. In the flatwoods region of Florida, 64 fluid ounces is required for control.

Horsebottle	2-3.3	3-20	1.5%
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Horseweed	3	3-40	1.5%
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Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Iceplant	—	—	1.5-2%
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Thorough coverage is necessary for best control.

Jerusalem artichoke	2-3.3	3-20	1.5%
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Johnsongrass	0.4-2	3-40	1%
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In annual cropping systems apply 22 to 44 fluid ounces of this product per acre. Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage (no-till) is not practiced, apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using 22 fluid ounces of this product per acre.

For burndown of Johnsongrass, apply 11 fluid ounces of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot treatment (partial control or suppression)—Apply a 0.7-percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.

Kikuyugrass	1.5-2	3-40	1.5%
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Spray when most kikuyugrass is at least 8 inches in height (3- or 4-leaf stage of growth). Allow 3 or more days after application before tillage.

Knapweed	3	3-40	1.5%
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Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Lentene	—	—	1%
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Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

Lespedeza	2-3.3	3-20	1.5%
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**PERENNIAL WEEDS RATE SECTION 101**

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**PERENNIAL WEEDS RATE SECTION 102**

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Milweed, common	2	3-40	1.5%

Apply when most plants have reached the late bud to flower stage of growth.

Mulch, wirestem	0.7-1.5	3-40	1.5%
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Use 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or non-crop areas. Spray when the wirestem mulch is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.

Mudgum, common	2-3.3	3-20	1.5%
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Napiergrass	2-3.3	3-20	1.5%
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Nightshade, silverleaf	1.5	3-10	1.5%
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Applications should be made when at least 50 percent of the plants have berries. Fall treatments must be applied before a killing frost.

Nutsedge, purple or yellow	0.4-2	3-40	1-1.5%
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Apply 64 fluid ounces of this product per acre or apply a 1- to 1.5-percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets that have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential applications: 22 to 44 fluid ounces of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3- to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For partial control of existing plants, apply 11 to 44 fluid ounces of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.

Orchardgrass	0.7-1.5	3-40	1.5%
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Orchardgrass sods going to no-till corn: Apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

Pampasgrass	—	—	1-1.5%
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Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

Paragrass	2-3.3	3-20	1.5%
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Perennial ryegrass	2-3.3	10-40	1-1.5%
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For partial control and best results, treat during late summer or fall when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to achieve control. Visual control symptoms will be slow to develop.

Poison hemlock	—	—	1-1.5%
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For hand held, apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Thorough coverage is necessary for best control.

Poisonweed, common	1	3-40	1.5%
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Apply to actively growing plants up to 24 inches tall.

Quackgrass	0.7-2	3-40	1.5%
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In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 44 fluid ounces of this product. Do not tank mix with residual herbicides when using the 22-fluid-ounce rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.

**PERENNIAL WEEDS RATE SECTION 103**

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**PERENNIAL WEEDS RATE SECTION 104**

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Mixed % Solution
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In pastures, sods or non-crop areas where deep tillage does not follow application: Apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.

Redvine	0.5-1.5	5-10	1.5%
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For suppression, apply 16 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 44 fluid ounces per acre. Apply recommended rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Red-top plant	—	—	1.5%
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Best results are obtained when applications are made in late summer to fall.

Ryegrass, perennial	0.7-2	3-40	1%
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In annual cropping systems apply 22 to 44 fluid ounces of this product per acre. Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage (no-till) is not practiced, apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using 22 fluid ounces of this product per acre.

Smartweed, swamp	2-3.3	3-40	1.5%
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Also for control, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.

Southwest, perennial	1.5-2	3-40	1.5%
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

Spurge, leafy	—	3-10	1.5%
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For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.

Starthistle, yellow	1.5	10-40	1.5%
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Best results are obtained when applications are made during the rosette, bolting and early flower stages.

Sweet potato, wild	—	—	1.5%
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For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

Thistle, arctic	—	—	1.5%
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For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

Thistle, Canada	1.5-2	3-40	1.5%
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression in the spring, apply 22 fluid ounces of this product, or 11 fluid ounces of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

Timothy	1.5-2	3-40	1.5%
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Torpedograss	2.5-3.3	3-40	1.5%
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For partial control, apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to achieve control. Fall treatments must be applied before frost.

Trumpet creeper	1.5	5-10	1.5%
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For partial control, apply in late September or October, to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Vanoygrass	2-3.3	3-20	1.5%
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Velvetgrass	2-3.3	3-20	1.5%
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**PERENNIAL WEEDS RATE SECTION 105**

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**WOODY BRUSH AND TREES 106**

Wheatgrass, western <sup>1</sup>	1.5-2	3-20	1.5%
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<sup>1</sup> Apply when most plants have reached the early bud stage of growth.

<sup>2</sup> Apply when most plants have reached the early heading stage of growth.

## 16.0 WOODY BRUSH AND TREES RATE SECTION (Alphabetically by Species)

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Unless otherwise directed, apply broadcast treatments in 3 to 40 gallons of water per acre. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

**WOODY BRUSH AND TREES RATE TABLE**  
(Alphabetically by Species)

Woody Species <sup>1</sup>	Rate (01/A) <sup>2</sup>	Hand-Held % Solution
Alder	2-3	1%
Ash <sup>1</sup>	1.5-3.3	1-1.5%
Aspen, quaking	1.5-2	1%
Bearmat (Bearclover) <sup>1</sup>	1.5-3.3	1-1.5%
Beech <sup>1</sup>	1.5-3.3	1-1.5%

Birch	1.5-2	1%
Blackberry	2-3	1%
Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.7 percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 2 to 2.5 quarts of this product in 10 to 40 gallons of water per acre.		
Blackgum	1.5-3.3	1-1.5%
Bracken	1.5-3.3	1-1.5%
Broom,		
French, Scotch	—	1-1.5%
Buckwheat,		
California <sup>1</sup>	—	1-1.5%
Cascara <sup>1</sup>	1.5-3.3	1-1.5%
Catalpa <sup>1</sup>	—	1%
Ceanothus <sup>1</sup>	1.5-3.3	1-1.5%
Chamise <sup>2</sup>	—	1%
Cherry, bitter,		
black, pin	1.5-2	1%
Coyote Brush	—	1-1.5%
Apply when at least 50 percent of the new leaves are fully developed.		
Dogwood <sup>1</sup>	1.5-3.3	1-1.5%
Elderberry	1.5-2	1%
Elm <sup>1</sup>	1.5-3.3	1-1.5%
Eucalyptus	—	1.5%
For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed eucalyptus plants.		
Florida holly (Brazilian		
Peppertree) <sup>1</sup>	1.5-3.3	1-1.5%
Gum <sup>1</sup>	1.5-3.3	1-1.5%
Masardia <sup>1,2</sup>	—	1-1.5%

**WOODY BRUSH AND TREES 107**

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**WOODY BRUSH AND TREES 108**

Weed Species	Rate (oz/A)	Hand: Held % Solution
Hawthorn	1.5-2	1%
Hazel	1.5-2	1%
Hickory	1.5-3.3	1-1.5%
Honeysuckle	2-3	1%
Hornbeam, American <sup>1</sup>	1.5-3.3	1-1.5%
Kudzu	2.5-3.3	1.5%

Repeat applications may be required to achieve control.

Locust, black <sup>1</sup>	1.5-3	1-1.5%
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Madrone resprouts<sup>1</sup>

1.5%

Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.

Manzanita <sup>1</sup>	1.5-3.3	1-1.5%
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Maple, red

1%

Apply a 1 percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 44 to 86 fluid ounces of this product per acre.

Maple, sugar	—	1%
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Apply when at least 50 percent of the new leaves are fully developed.

Monkey flower <sup>1,2</sup>	—	1-1.5%
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Oak, black, white <sup>1</sup>	1.5-3	1-1.5%
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Oak, post	2-3	1%
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Oak, northern	—	1%
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Apply when at least 50 percent of the new leaves are fully developed.

Oak, southern Red	1.5-2	1%
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Persea <sup>1</sup>	1.5-3.3	1-1.5%
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Pine	1.5-3.3	1-1.5%
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Portia egg	—	—
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Portia oak	2.5-3.3	1.5%
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Repeat applications may be required to achieve control. Fall treatments must be applied before leaves lose green color.

Poplar, yellow <sup>1</sup>	1.5-3.3	1-1.5%
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Redbud, Eastern	1.5-3.3	1-1.5%
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Rose, multiflora

1.5

1%

Treatments should be made prior to leaf deterioration by leaf-eating insects.

Russian olive <sup>1</sup>	1.5-3.3	1-1.5%
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Sage, black <sup>2</sup>	—	1%
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Sage, white	1.5-3.3	1-1.5%
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Sage brush,	—	—
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California<sup>2</sup>

1%

Salmonberry	1.5-2	1%
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Salcedar	1.5-3.3	1-1.5%
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Sassaparilla <sup>1</sup>	1.5-3.3	1-1.5%
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Sourwood <sup>1</sup>	1.5-3.3	1-1.5%
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Sumac, poison,	—	—
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smooth, winged<sup>1</sup>

1.5-3

1-1.5%

Sweetgum	1.5-2	1%
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Swordfern <sup>1</sup>	1.5-3.3	1-1.5%
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Yellowtree, Chinese <sup>1</sup>	—	1%
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Yan oak resprouts <sup>1</sup>	—	1.5%
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Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.

Thimbleberry	1.5-2	1%
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Tobacco, tree <sup>1</sup>	—	1-1.5%
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Trumpet creeper	1.5-2	1%
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Vine maple <sup>1</sup>	1.5-3.3	1-1.5%
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Virginia creeper	1.5-3.3	1-1.5%
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Waxmyrtle	—	—
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southern	1.5-3.3	1-1.5%
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Willow	2-3	1%
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<sup>1</sup> Partial Control

<sup>2</sup> Through coverage of foliage is necessary for best results.

**WOODY BRUSH AND TREES 109**

**LIMIT OF WARRANTY 110****17.0 LIMIT OF WARRANTY AND LIABILITY**

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

For over-the-top uses on Roundup Ready crops, crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY

OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

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**PROTOCOL II**

**HERBICIDE**

**Complete Directions for Use**



(91)063011041153

EPA Reg. No. 524-539

2004-1



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63011C1-1/53

# PROTOCOL II

## HERBICIDE

Selective broad-spectrum weed control in Roundup Ready® crops. Non-selective, broad-spectrum weed control for many agricultural systems.

### Complete Directions for Use

EPA Reg. No. 524-539

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

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Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read the entire label before using this product.

Use only according to label instructions.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

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**1.0 INGREDIENTS****ACTIVE INGREDIENT:**

*Glyphosate, N-(phosphonomethyl)glycine, in the form of its potassium salt	48.7%
OTHER INGREDIENTS:	51.3%
	100.0%

\*Contains 660 grams per liter or 5.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its potassium salt. Equivalent to 540 grams per liter or 4.5 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patents Nos. 6,365,551 and RE 37,866. Other patents pending. No license granted under any non-U.S. patent(s).

**2.0 IMPORTANT PHONE NUMBERS**

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE,

1-800-332-3111

2. IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT,

1-141-694-4000

**INGREDIENTS****5**

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**PRECAUTIONARY STATEMENTS 6****3.0 PRECAUTIONARY STATEMENTS****3.1 Hazards to Humans and Domestic Animals**

Keep out of reach of children.

**CAUTION!**

CAUSES MODERATE EYE IRRITATION.

Avoid contact with eyes, skin, or clothing.

<b>FIRST AID:</b>	Call a poison control center or doctor for treatment advice.
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses if present after the first 5 minutes then continue rinsing eye.</li> </ul>
<b>IF ON SKIN</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> </ul>
<ul style="list-style-type: none"> <li>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</li> <li>You may also contact (314) 694-4000, collect day or night, for emergency medical treatment information.</li> <li>This product is identified as Protocol® II herbicide, EPA Registration No. 524-539.</li> </ul>	

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

**Personal Protective Equipment (PPE)**

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear: long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

**User Safety Recommendations**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**3.2 Environmental Hazards**

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

**PRECAUTIONARY STATEMENTS 7**

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**PRECAUTIONARY STATEMENTS 8****3.3 Physical or Chemical Hazards**

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

**Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for entry into treated areas that is permitted under the Worker Protection Standard and that involves contact with any thing that has been treated, such as plants, soil, or water, wear: coveralls, shoes plus socks, and chemical-resistant gloves made of any waterproof material.

**Non-Agricultural Use Requirements**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses. Keep people and pets off treated areas until spray solution has dried.

**4.0 STORAGE AND DISPOSAL**

**PESTICIDE STORAGE:** Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

See container label for alternate PESTICIDE DISPOSAL instructions.

**5.0 GENERAL INFORMATION  
(How this product works)**

**Product Description:** This product is a postemergent, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody

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**GENERAL INFORMATION 10**

brush and trees. It is formulated as a water-soluble liquid. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label instructions.

Do not add buffering agents or pH adjusting agents to the spray solution when Protocol II herbicide is the only pesticide used unless otherwise directed. See the "MIXING" section of this label for instructions regarding other additives.

Although not generally required, surfactants or additives containing surfactants may be added to this product. Refer to the "MIXING" section of this label for additional information.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" for recommendations for specific weeds.

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Reduced weed control may result from treating weeds with disease or insect damage, weeds heavily covered with dust, or weeds under poor growing conditions.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off

of the foliage and a repeat application may be required for adequate control.

**Spray Coverage:** For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of run-off.

**Mode of Action:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to formation of specific amino acids.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow.

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

When this label recommends a tank mixture with a generic active ingredient such as diuron, atrazine, 2,4-D, or dicamba, the user is responsible for ensuring that the mixture product's label allows the specific application.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials may result in reduced performance.

Tank mixtures with certain herbicides listed in this label may result in reduced weed control due to antagonism. Read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used. Use according to the most restrictive directions for each product in the mixture.

**Annual Maximum Use Rate:** Except as otherwise specified in a crop

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section of this label, the combined total of all treatments must not exceed 5.3 quarts of this product per acre per year. For applications in non-crop sites or in tree, vine, or shrub crops, the combined total of all treatments must not exceed 7 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

**NOTE:** Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

Information on Weed Resistance:

GROUP	HERBICIDE
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Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices.

Weed resistance management recommendations for Group 9 herbicides are:

- Ensure optimum weed control by making applications at the right time (correct weed size) and utilizing the recommended label rate for the most difficult to control weed in your field.
- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2 to 4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Monsanto representative.

**6.0 MIXING**

Use the following conversion table to help determine application rates of Protocol II herbicide based on commonly used rates of Roundup Original herbicide.

PROTOCOL II CONVERSION TABLE	
PROTOCOL II (Ounces)	Roundup Original (Ounces)
16	24
22	32
27	40
32	48

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

**NOTE:** REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

**6.1 Mixing with Water**

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.



**MIXING 14****6.2 Tank Mixing Procedure**

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20- to 35-mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If ammonium sulfate is used add it slowly through the screen into the tank. Continue agitation. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding other products.
4. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
5. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
7. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
8. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift reduction additive and water soluble liquid.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance. Ensure that the specific tank mixture product is registered for application at the desired site.

Refer to the "Tank Mixing" section of "GENERAL INFORMATION" for additional precautions.

**6.3 Mixing for Hand-Held Sprayers**

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

**Spray Solution**

Desired Volume	Amount of Protocol II herbicide					
	0.4%	0.7%	1%	1.5%	4%	7%
1 gal	0.5 oz	1 oz	1.3 oz	2 oz	5 oz	9 oz
25 gal	0.8 pt	0.7 qt	1 qt	1.5 qt	4 qt	7 qt
100 gal	1.6 qt	2.8 qt	1 gal	1.5 gal	4 gal	7 gal

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

**6.4 Surfactants**

Although not generally required, surfactant may be added to this product. However, surfactant addition is recommended at water carrier volumes above 30 gallons per acre or rates below 16 fluid ounces of this product per acre. Nonionic surfactants that are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, a rate of 0.25 to 0.50 percent surfactant concentration (1 to 2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient is recommended. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

When applied as recommended under the conditions described, this product controls annual and perennial weeds listed in this label booklet.

DO NOT add buffering agents or pH adjusting agents to the spray solution when Protocol II herbicide is the only pesticide used. Unless otherwise directed, non-ionic surfactant may be added to the spray solution for applications to Roundup Ready crops. The addition of certain surfactants to this product may result in

**MIXING 16**

some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Refer to the "ROUNDUP READY CROPS" section of this label or separately published supplemental labeling for additional precautions or restrictions. In addition, always read and carefully observe cautionary statements and other information appearing on the surfactant label.

**6.5 Ammonium Sulfate**

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, particularly under hard water conditions, drought conditions or when tank mixed with certain residual herbicides, on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

**NOTE:** When using ammonium sulfate, apply this product at rates recommended in this label. Lower rates will result in reduced performance.

**6.6 Colorants or Dyes**

Agriculturally approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

**6.7 Drift Reduction Additives**

Drift reduction additives may be used with all equipment types, except wiper applicators, sponge bars and Controlled Droplet Applicator (CDA) equipment. When a drift reduction additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label. The use of drift reduction additives can affect spray coverage which may result in reduced performance.

**7.0 APPLICATION EQUIPMENT AND TECHNIQUES**

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

**Aerial**—Fixed Wing and Helicopter

**Ground Broadcast Spray**—Boom or boomless systems, pull-type sprayer, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment.

**Hand-Held or High-Volume Spray Equipment**—Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

\*This product is not registered in California or Arizona for use in mistblowers.

**Selective Equipment**—Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.

**Injection Systems**—Aerial or ground injection sprayers.

**Controlled Droplet Applicator (CDA)**—Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

**7.1 Aerial Equipment**

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 22 fluid ounces per acre. Refer to the individual use area sections of this label for recommended volumes, application rates, and further instructions.

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**APPLICATION EQUIPMENT 18**

FOR AERIAL APPLICATION IN CALIFORNIA OR SPECIFIC COUNTIES THEREIN, OR ARKANSAS, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE OR COUNTY FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

This product plus dicamba tank mixtures may not be applied by air in California.

Ensure uniform application - To avoid streaked, uneven or overlapped application, use appropriate marking devices.

**AERIAL SPRAY DRIFT MANAGEMENT**

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward, parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

**Importance of Droplet Size**

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the "Wind", "Temperature and Humidity", and "Temperature Inversions" sections of this label).

**Controlling Droplet Size**

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation:** Orienting nozzles so that the spray is released

backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.

- **Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom length:** For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

**Swath Adjustment**

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller droplets, etc.).

**Wind**

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 miles per hour due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

**Temperature and Humidity**

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**Temperature Inversions**

Applications should not occur during a temperature inversion because

**APPLICATION EQUIPMENT 19**

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**APPLICATION EQUIPMENT 20**

drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Sensitive Areas**

The product should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Avoid direct application to any body of water.

**Aircraft Maintenance**

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

**7.2 Ground Broadcast Equipment**

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equip-

ment, use flat spray nozzles. Check for even distribution of spray droplets.

**7.3 Hand-Held or High-Volume Equipment**

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of run-off. Use coarse sprays only. For recommended rates and timing, refer to the "Annual Weeds—Hand-Held Or High-Volume Equipment" section of this product label.

**7.4 Selective Equipment**

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars, after dilution and thorough mixing with water, to listed weeds growing in any non-crop site specified on this label.

In cropping systems, hooded sprayers, shielded sprayers, and wipers may be used in row middles (in between rows of crop plants) where any dripping or leaking will not contact crop foliage. Such equipment must be capable of preventing all crop contact with herbicide solutions and operated without leakage of spray mists or dripping onto crop. Wipers over-the-top of crops may be used only when specifically recommended in this product's labeling.

**AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Application equipment used above desirable vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be

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affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

**Recirculating Spray System**

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

**Shielded and Hooded Applicators**

When applied under the conditions described in the following paragraphs for shielded and hooded applications, this product at recommended rates will control those weeds listed in the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" of this label. A hooded sprayer is a type of shielded applicator where the spray pattern is fully enclosed including top, sides, front and back, thereby shielding the crop from the spray solution. Keep shields on these sprayers adjusted to protect desirable vegetation. When applying to crops grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

Use hoods designed to minimize excessive dripping or run-off down the insides of the hoods. A single, low pressure/low-drift flat-fan nozzle with an 80 to 95 degree spray angle positioned at the top-center of the hood is recommended. Spray volume should be 20 to 30 gallons per acre.

These procedures will reduce the potential for crop injury:

- The spray hoods must be operated on the ground or skimming across the ground.
- Leave at least an 8 inch untreated strip over the drill row. For example, if the crop row width is 38 inches, the maximum width of the spray

hood should be 30 inches.

- Maximum tractor speed: 5 miles per hour to avoid bouncing of the spray hoods.
- Maximum wind speed: 10 miles per hour.
- Use low-drift nozzles that provide uniform coverage within the treated area.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

**Wiper Applicators**

When applied under the conditions described in the following paragraphs, this product **CONTROLS** many weeds, including volunteer corn, Texas panicum, common rye, shattercane, sicklepod, spanishneedles, and bristly starbur; and **SUPPRESSES** many weeds including Florida beggarweed, Bermudagrass, hemp dogbane, dogfennel, guineagrass, johnsongrass, milkweed, silverleaf nightshade, redroot pigweed, giant ragweed, smutgrass, sunflower, Canada thistle, musk thistle, vaseygrass, and velvetleaf.

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if two applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

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Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution.

**For Rope or Sponge Wick Applicators**—Solutions ranging from 33 to 75 percent of this product in water may be used. Apply this solution to weeds listed above in this section.

**For Panel Applicators**—Solutions ranging from 33 to 100 percent of this product in water may be used in panel wiper applicators.

**7.5 Injection Systems**

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products when using injection systems.

**7.6 CDA Equipment**

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 2 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 miles per hour (1 quart per acre). For the control of perennial weeds, apply a 20- to 30-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 miles per hour (2 to 3 quarts per acre).

Controlled droplet application equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

**8.0 ANNUAL AND PERENNIAL CROPS  
(Alphabetical)**

NOTE: THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED CROPS WITHIN SECTION 8 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PRE-HARVEST INTERVALS, AND ADDITIONAL PRECAUTIONS AND RESTRICTIONS.

See the "ROUNDUP READY CROPS" section of this label or separately published Monsanto Supplemental Labeling for instructions for treating Roundup Ready crops.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, and Post-Harvest Treatments.

**GENERAL USE INSTRUCTIONS:**

Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or preemergent to annual and perennial crops listed in this label, except where specifically limited. For any crop not listed in this label, applications must be made at least 30 days prior to planting. Unless otherwise specified, weed control applications may be made according to the rates listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" in this label. Repeat applications may be made up to a maximum of 5.3 quarts per acre per year.

Post-directed hooded sprayers and wiper equipment capable of preventing all crop contact with herbicide solutions may be used in mulched or unmulched row middles after crop establishment. Where specifically noted below, wipers may also be used above certain crops to control fall weeds. Refer to the "Selective Equipment" section of this label for essential precautions when using hooded sprayers or wipers to avoid crop injury caused by leakage of spray mists or dripping onto crops. Crop injury is possible with these applications and shall be the sole responsibility of the applicator.

The maximum use rates stated throughout this product's labeling apply

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to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

### GENERAL PRECAUTIONS, RESTRICTIONS:

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Broadcast applications made at emergence will result in injury or death to emerged seedlings. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

In crops where spot treatments are allowed, do not treat more than 10 percent of the total field to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason.

For broadcast postemergent treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

## 8.1 Cereal and Grain Crops

**LABELED CROPS:** Barley, Buckwheat, Millet (pearl, proso), Oats, Rice, Rye, Quinoa, Tef, Teosinte, Triticale, Wheat (all types), Wild Rice.

**PRECAUTIONS, RESTRICTIONS:** Do not treat rice fields or levees when field contains water.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Red Rice Control Prior to Planting Rice, Spot Treatment (except Rice), Over-the-Top Wiper Applications (Feed Barley and Wheat Only), Preharvest (Feed Barley and Wheat Only).

### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of cereal crops. Applications must be made prior to emergence of the crop.

### Red Rice Control Prior to Planting Rice

**USE INSTRUCTIONS:** Apply 32 fluid ounces of this product in 5 to 10 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of red rice. Make application when the majority of the red rice plants are in the 2-leaf stage and no more than 4 inches tall. Red rice plants with less than 2 true leaves may be only partially controlled.

**PRECAUTIONS, RESTRICTIONS:** Avoid spraying during low humidity conditions, as reduced control may result. Do not treat rice fields or levees when the fields contain floodwater. Do not reflood treated fields for 8 days following application.

### Spot Treatment (except Rice)

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in cereal crops. Apply this product before heading in small grains.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

### Over-the-Top Wiper Applications (Feed Barley and Wheat Only)

**USE INSTRUCTIONS:** Wiper applications may be used in wheat and feed barley. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth, and when the rye is at least 6 inches above the wheat crop.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 35 days between application and harvest. Do not use roller applicators.

### Preharvest (Feed Barley and Wheat Only)

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of wheat or feed barley. For wheat, apply after the hard-dough stage of grain (30 percent or less grain moisture). For feed barley, apply after the hard-dough stage and when the grain contains 20 percent

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moisture or less. Stubble may be grazed immediately after harvest.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 22 fluid ounces of this product per acre. Allow 7 days between application and harvest or grazing. Preharvest application is not recommended for wheat or barley grown for seed, as a reduction in germination or vigor may occur.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of cereal crops. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

**8.2 Corn**

**TYPES OF CORN:** Field Corn, Seed Corn, Silage Corn, Sweet Corn and Popcorn.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Spot Treatment, Preharvest.

For use directions for corn containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting corn. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting corn. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 50 gallons of nitrogen solution per acre.

2,4-D  
Aim®  
atrazine  
Axiom®  
Balance®  
Banval®/Clarity®  
Bicep MAGNUM®  
Bicep II MAGNUM®  
Bullet®  
Degree®  
Degree Xtra®  
Distinct®  
Dual MAGNUM®  
Dual II MAGNUM®  
Epic®

Frontier®/Outlook®  
Fulltime®  
Guardman®/Leadoff®  
Harness®  
Harness Xtra  
Harness Xtra 5.6L  
Lariat®  
Lasso®/Alachlor  
Linex™/Lorox™  
Marksman®  
Micro-Tech®  
Prowl®  
Python®  
Simazine  
TopNolch®

For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, use rate may need to be increased for acceptable weed control.

**PRECAUTIONS, RESTRICTIONS:** Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn.

For Southern states, do not apply in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. The area covered by this recommendation includes from Route 50 South in Illinois and Indiana and the following states: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

**Hooded Sprayers**

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of corn. Only hooded sprayers that

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completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Corn must be at least 12 inches tall, measured without extending leaves. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not apply more than 22 fluid ounces of this product per acre for each application and no more than 64 fluid ounces per acre per year for hooded sprayer applications.

**Spot Treatment**

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to silking of corn.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**Preharvest**

**USE INSTRUCTIONS:** Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground applications, apply up to 64 fluid ounces of this product per acre. For aerial applications, apply up to 44 fluid ounces of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest. Preharvest application is not recommended for corn grown for seed, as a reduction in germination or vigor may occur.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

**8.3 Cotton**

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Selective Equipment, Spot Treatment, Preharvest.

For use direction for cotton containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting cotton. Apply these tank mixtures in 10 to 20 gallons of water per acre.

Caparel®	Dual II Magnum
Clarity	Karmex®
Command™	Meturon®
Coloran®	Prowl
Cotton-Pro®	Staple®
Direx®	Zorial®
Dual Magnum	2,4-D

**PRECAUTIONS/RESTRICTIONS:** Refer to individual product labels for rates, restrictions, precautionary statements and preplant intervals.

**Hooded Sprayers, Selective Equipment**

**USE INSTRUCTIONS:** This product may be applied through hooded sprayers, recirculating sprayers, shielded applicators or wiper applicators in cotton. Allow at least 7 days between application and harvest.

**PRECAUTIONS, RESTRICTIONS:** See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

**Spot Treatment**

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to boll

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opening of cotton.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

### Preharvest

**USE INSTRUCTIONS:** This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" of this label. For cotton regrowth inhibition, apply 11 to 44 fluid ounces of this product per acre.

Up to 44 fluid ounces of this product may be applied using either aerial or ground spray equipment. Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

**TANK MIXTURES:** This product may be tank mixed with DEFT<sup>TM</sup> 6, Folex<sup>TM</sup>, Ginstar, or Prep<sup>TM</sup> to provide additional enhancement of cotton leaf drop.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Preharvest application is not recommended for cotton grown for seed, as a reduction in germination or vigor may occur.

## 8.4 Fallow Systems

**LABELED CROPS:** This product may be applied during the fallow period prior to planting or emergence of any crop on this label.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Aid-to-Tillage.

### Chemical Fallow

**USE INSTRUCTIONS:** This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or sup-

press many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used. Applications up to 44 fluid ounces per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting. Do not apply dicamba tank mixtures by air in California.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if dicamba is applied within 45 days of planting.

### Preplant Fallow Beds

**USE INSTRUCTIONS:** This product may be applied to fallow beds prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product will control weeds listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" of this label.

**TANK MIXTURES:** In addition, 8 fluid ounces of this product plus 2 to 3 fluid ounces of Goal<sup>®</sup> 2XL per acre will control the following weeds with the maximum height or length indicated: 3 inches—common cheeseweed, chickweed, groundsel; 6 inches—London rocket, shepherd's-purse.

11 fluid ounces of this product plus 2 to 3 fluid ounces of Goal 2XL per acre will control the following weeds with the maximum height or length indicated: 6 inches—common cheeseweed, groundsel, mare's tail (*Conyza canadensis*), 12 inches—chickweed, London rocket, shepherd's-purse.

### Aid-to-Tillage

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after applica-

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tion before tillage.

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures with residual herbicides may result in reduced performance.

## 8.5 Grain Sorghum (Milo)

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Spot Treatment, Over-the-Top Wiper Applications, Preharvest.

### Preplant, Proemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in tank mixture before, during or after planting grain sorghum. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting grain sorghum. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

Atrazine	IntRRo™
Bicep II MAGNUM	Lariat
Bullet	Lasso
Dual II MAGNUM	Micro-Tech

For difficult-to-control annual weeds such as fall panicum, barnyard-grass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, the use rate may need to be increased for acceptable weed control.

### Spot Treatment, Over-the-Top Wiper Applications

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in grain sorghum. Make spot treatments before heading of milo. This product may be applied with wiper applicators to control or suppress the weeds listed under "Wiper Applicators" in the "Selective Equipment" section of this label.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

### Hooded Sprayers

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of milo. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

**PRECAUTIONS, RESTRICTIONS:** Milo must be at least 12 inches tall, measured without extending leaves. Treat before milo sends tillers between the drill rows. If such tillers are contacted with the spray solution, the main plant may be killed. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers. Do not apply more than 22 fluid ounces of this product per acre per application and no more than 64 fluid ounces per acre per year for hooded sprayer applications.

### Preharvest

**USE INSTRUCTIONS:** Make applications at 30 percent grain moisture or less.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 44 fluid ounces of this product per acre. As with other herbicides that cause sudden plant death, avoid preharvest applications of this product to milo

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infected with charcoal rot as lodging can occur. Allow a minimum of 7 days between application and harvest of sorghum. Preharvest application is not recommended for sorghum grown for seed, as a reduction in germination or vigor may occur. The use of this product for preharvest grain sorghum (milo) is not registered in California.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of grain sorghum. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 22 fluid ounces of this product per acre for control, or 16 fluid ounces of this product per acre for suppression.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

**8.6 Herbs and Spices**

**LABELED CROPS:** Allspice, Angelica, Star anise, Annatto (seed), Balm, Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Black caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese chive, Cinnamon, Clary, Clove buds, Coriander leaf (cilantro or chinese parsley), Coriander seed (cilantro), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Dill (dillweed), Dill (seed), Epazote, Fennel seed (common and Florence), Fenugreek, White ginger flower, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf and seed), Mace, Marigold, Marjoram (including oregano), Mexican oregano, Mioga flower, Mustard (seed), Nasturtium, Nutmeg, Parsley (dried), Pennyroyal, Pepper (black and white), Pepper leaves, Peppermint, Perilla, Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Spearmint, Stevia leaves, Sweet bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following:

Over-the-Top Wiper Applications (Peppermint and Spearmint Only). Spot Treatment (Peppermint and Spearmint Only).

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to ensure that the wash water flushes off the plastic mulch and does not enter transplant holes.

**Over-the-Top Wiper Applications, Spot Treatment (Peppermint and Spearmint Only)**

**USE INSTRUCTIONS:** This product may be used as a spot treatment or wiper application in spearmint and peppermint. Apply spot treatments on a spray-to-wet basis with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, handguns, handwands or any other hand-held or motorized spray equipment used to direct the spray solution to a limited area. In wiper applications, the applicator should be adjusted so that the wiper contact point is at least 2 inches above the crop. Weeds should be a minimum of 6 inches taller than the crop.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30-day intervals. In spot treatment applications, no more than 10 percent of the total field area to be harvested should be treated at one time. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for this reason. In wiper applications, contact of the herbicide solution with the crop may result in damage or destruction.

**8.7 Oil Seed Crops**

**LABELED CROPS:** Borage, Buffalo gourd (seed), Canola, Crambe, Flax, Jojoba, Lesquerella, Meadowfoam, Mustard (seed), Rape, Safflower, Sesame, Sunflower.

For use directions for canola containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0.

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**USE INSTRUCTIONS:** This product may be applied before, during or after planting oil seed crops. Broadcast applications must be made prior to emergence of the listed oil seed crops. Wiper applicators or hooded sprayers may be used between the rows once the crop is established.

**TANK MIXTURES:** For sunflowers, a tank mixture with Prowl® may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 44 fluid ounces of this product per acre on canola. Do not apply more than 22 fluid ounces of this product per acre for sunflowers as a single preplant or preemergent application per year. Do not feed or graze sunflower forage following application of this product.

**8.8 Soybeans**

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Spot Treatment, Preharvest, Selective Equipment.

For use directions for soybeans containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied alone or in a tank-mixture before, during or after planting soybeans. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** Apply these tank mixtures in 10 to 20 gallons of water per acre.

Aim	Command
Amplify™	Command Xtra™
Assure® II	Domain®
Authority®	Dual MAGNUM
Boundary®	Dual II MAGNUM
Canopy®	FirstRate®
Canopy XL®	Flexstar™
Cobra®	Frontier/Outlook

Fusion®  
Gauntlet®  
IntRRo  
Lasso  
Linex  
Lorox/Ainuron  
Lorox Plus®  
Micro-Tech  
Prowl

Pursuit®  
Pursuit Plus  
Reflex®  
Scepter®  
Sencor®/Lexona®  
Select™  
Squadron®  
Steel®  
Valor®

This product may be tank mixed with 2,4-D or 2,4-DB, provided that the specific product is registered for application prior to planting soybeans. See the 2,4-D label for intervals between application and planting.

For difficult-to-control annual weeds such as fall panicum, barnyard-grass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall.

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures with some of the above listed herbicides may result in reduced weed control due to antagonism. Read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used. Use according to the most restrictive directions for each product in the mixture.

**Spot Treatment**

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to initial pod set in soybeans.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**Preharvest**

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans.

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Apply at rates given in the "ANNUAL WEEDS", "PERENNIAL WEEDS" and "WOODY BRUSH AND TREES RATE SECTIONS". This product may be applied using either aerial or ground spray equipment. Apply after pods have set and lost all green color. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 3.3 quarts per acre of this product for preharvest applications. Do not apply more than 44 fluid ounces per acre of this product by air. Allow a minimum of 7 days between application and harvest of soybeans. Do not graze or harvest treated hay or fodder for livestock feed within 25 days of last preharvest application. (If the application rate is 22 fluid ounces per acre or lower, the grazing restriction is reduced to 14 days after last preharvest application.) Preharvest application is not recommended for soybeans grown for seed, as a reduction in germination or vigor may occur.

**Selective Equipment**

**USE INSTRUCTIONS:** This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans. Allow at least 7 days between application and harvest.

**PRECAUTIONS, RESTRICTIONS:** See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

**8.9 Sugarcane**

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus Spot Treatment.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied in or around sugarcane fields or in fields prior to the emergence of plant cane.

**PRECAUTIONS, RESTRICTIONS:** Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

**Spot Treatment**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 1-

percent solution of this product in water and spray-to-wet the foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.

**PRECAUTIONS, RESTRICTIONS:** Avoid spray contact with healthy cane plants since severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

**Fallow Treatments**

**USE INSTRUCTIONS:** This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 2.5 to 3.3 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage. Ground or aerial application equipment may be used. Applications up to 64 fluid ounces per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops. Tank mixtures with 2,4-D and dicamba may be used.

**Hooded Sprayers**

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of sugarcane. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional use instructions.

**PRECAUTIONS, RESTRICTIONS:** Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

**8.10 Vegetable Crops**

**NOTE:** THIS "VEGETABLE CROPS" SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED VEGETABLE CROPS WITHIN SECTION 8.10 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

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**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, Prior to Transplanting Vegetables, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, and Post-Harvest, Directed Applications (Non-Bearing Ginseng), Over-the-Top Wiper Applications (Rutabagas Only).

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to insure that the wash water flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

**8.10.1 Brassica Vegetables**

**LABELED CROPS:** Broccoli, Chinese broccoli (gai lan), Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens.

**8.10.2 Bulb Vegetables**

**LABELED CROPS:** Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot.

**8.10.3 Cucurbit Vegetables and Fruits**

**LABELED CROPS:** Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucurza, hechima, Chinese okra), Melons (all), *Momordica spp* (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straight-neck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon.

**PRECAUTIONS, RESTRICTIONS:** For Cantaloupe, Casaba melon, Crenshaw melon, Cucumber, Gherkin, Gourds, Honeydew melon, Honey ball melon, Mango melon, Melons (all), Muskmelon, Persian melon, Pumpkin, Squash (summer, winter), and Watermelon, allow at least 3 days between application and planting.

**8.10.4 Leafy Vegetables**

**LABELED CROPS:** Amaranth (Chinese spinach), Arugula (rocket), Beet greens, Cardoon, Celery, Chinese celery, Celluce, Chaya, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Dokudami, Endive (escarole), Florence fennel, Gow kee, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Swiss chard, Watercress (upland), Water spinach.

**PRECAUTIONS, RESTRICTIONS:** For Watercress, avoid applications within 3 days prior to seeding and during the period between seeding and

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emergence to minimize the risk of injury.

**8.10.5 Fruiting Vegetables**

**LABELED CROPS:** Eggplant, Groundcherry (*Physalis spp.*), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato.

**PRECAUTIONS, RESTRICTIONS:** For Eggplant, Ground cherry, Pepper (all), and Tomatillo, allow at least 3 days between application and planting. For tomato, do not make hooded or shielded sprayer applications in row middles unless otherwise directed.

**8.10.6 Legume Vegetables (succulent or dried)**

**LABELED CROPS:** Bean (*Lupinus*: includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus*: includes field bean, kidney bean, lima bean, navy bean, pinlo bean, runner bean, snap bean, tepary bean, wax bean), Bean (*Vigna*: includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (*Pisum*: includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean.

**8.10.7 Root and Tuber Vegetables**

**LABELED CROPS:** Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Beet (garden), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Galangal, Ginger, Ginseng, Horseradish, Leren, Kava (turnip-rooted), Parsley (turnip rooted), Parsnip, Potato, Radish, Oriental radish, Rutabaga, Salsify, Black salsify, Spanish salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Wasabi, Yacon, Yam bean, True yam.

**Directed Applications (Non-Bearing Ginseng Only)**

**USE INSTRUCTIONS:** This product may be used for general weed control in established non-bearing ginseng. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high volume wands, lances, and orchard guns or with wiper application equipment.

**PRECAUTIONS, RESTRICTIONS:** Direct applications so that there is no contact of this product with the ginseng plant. Applications must be made at least one year prior to harvest.

**Over-the-Top Wiper Applications (Rutabagas Only)**

**USE INSTRUCTIONS:** Wiper applicators may be used over-the-top of rutabagas.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 14 days between application and harvest of rutabagas.

**8.11 Miscellaneous Crops**

**LABELED CROPS:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: General Weed Control, Site Preparation, Spot Treatment (Asparagus), Post-Harvest (Asparagus).

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this

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label for additional information.

**General Weed Control, Site Preparation**

**USE INSTRUCTIONS:** This product may be applied for general weed control or for site preparation prior to planting or transplanting crops listed in this section.

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to ensure that the wash water flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application.

**Spot Treatment (Asparagus)**

**USE INSTRUCTIONS:** This product may be applied immediately after cutting, but prior to the emergence of new spears.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

**Post-Harvest (Asparagus)**

**USE INSTRUCTIONS:** This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

**PRECAUTIONS, RESTRICTIONS:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence post-harvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

**9.0 TREE, VINE, AND SHRUB CROPS  
(Alphabetical)**

**NOTE:** THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED TREE, VINE, AND SHRUB CROPS WITHIN SECTION 9 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATIONS:** Preplant (Site Preparation) Broadcast Sprays, General Weed Control, Middles (between rows of trees, vines or bushes), Strips (within rows of trees, vines or bushes), Selective Equipment (shielded sprayers, wiper applications), Directed Sprays, Spot Treatment, Perennial Grass Suppression, Cut Stump.

Applications may be made with boom equipment, GDA equipment, shielded sprayers, hand-held and high-volume wands, fences, orchard guns or with wiper applicator equipment, except as directed.

**GENERAL USE INSTRUCTIONS:** This product may be applied in middles (between rows of trees or vines), strips (within rows of trees or vines), and for general weed control or perennial grass suppression in established tree fruit and nut groves, orchards, berries, and vineyards. It may also be used for site preparation prior to planting or transplanting these crops. Apply 11 fluid ounces to 3.3 quarts per acre according to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" of this label. Utilize rates at the higher end of the recommended rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 7 quarts per acre per year.

The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

**GENERAL PRECAUTIONS, RESTRICTIONS:** Extreme care must be exercised

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to avoid contact of herbicide solution, spray, drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees, canes and vines. Avoid applications when recent pruning wounds or other mechanical injury has occurred. Contact of this product with other than matured brown bark can result in serious crop damage or destruction. Only shielded or directed sprayers may be used in crops with potential for crop contact, and then only where there is sufficient clearance. For applications in strips (within rows of trees), only selective equipment (directed sprays, hooded sprayers, shielded applicators, or wipers) should be used to minimize the potential for leakage or drift of herbicide sprays onto crop. For berry crops, hooded or shielded sprayers must be fully enclosed including top, sides, front and back. Only wipers or shielded applicators capable of preventing all contact with crop may be used. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional directions and precautions.

Allow a minimum of 3 days between application and transplanting.

**Middles (between rows)**

**USE INSTRUCTIONS:** This product will control or suppress annual and perennial weeds and ground covers growing between the rows of labeled tree and vine crops. If weeds are under drought stress, irrigate prior to application. Reduced control may result if weeds have been mowed prior to application.

**TANK MIXTURES:** A tank mixture of this product plus Goal 2XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations. 11 to 22 fluid ounces per acre of this product plus 3 to 11 fluid ounces per acre of Goal 2XL will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherd's-purse, annual sowthistle, filaree (suppression), horse-weed/marestail, stinging nettle and common purslane (suppression). 11 to 22 fluid ounces per acre of this product plus 3 to 11 fluid ounces per acre of Goal 2XL will control common cheeseweed (malva) or hairy fleabane with a maximum height or diameter of 3 inches.

**Strips (in rows)**

**TANK MIXTURES:** This product may be applied in rows of tree or vine crops in tank mixtures with the following products:

Devrinol™ 50 DF	Simazine 4L
Direx® 4L	Simazine 80W
Goal 2XL	Sim-Trol™ 4L
Karmex DF	Solican DF®
Krovar I	Surflan™ AS
Prowl	Surflan 75W
Princep Caliber™ 90	

Do not apply these tank mixtures in Puerto Rico.

Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

**Perennial Grass Suppression**

This product will suppress perennial grasses such as bahiagrass, Bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 4 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 4 fluid ounces of this product per acre. Do not add ammonium sulfate.

For best results, mow cool season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 2 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of Bermudagrass, apply 22 to 44 fluid ounces of this product

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in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the Bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

For suppression of Bermudagrass, apply 4 to 11 fluid ounces of this product per acre east of the Rocky Mountains and 11 fluid ounces of this product per acre west of the Rocky Mountains. Apply in a total spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the Bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and Bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 4 to 7 fluid ounces of this product per acre should be used in shaded conditions or where a lesser degree of suppression is desired.

**Cut Stump**

**USE INSTRUCTIONS:** Cut stump applications of this product may be made during site preparation or site renovation, prior to transplanting tree crops. This product will control regrowth of cut stumps and resprouts of many types of tree species, some of which are listed below.

**Citrus Trees:** Calamondin, Chironja, Citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (Tangerine), Orange (all), Pummelo, Tangelo, Tangor.

**Fruit Trees:** Apple, Apricot, Cherry (sweet, sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (all), Quince.

**Nut Trees:** Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory Nut, Macadamia, Pecan, Pistachio, Walnut (black, English).

Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

**PRECAUTIONS, RESTRICTIONS:** DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF ADJACENT DESIRABLE TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

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**LABELED CROPS:** Blackberry (including bingleberry, black satin berry, boysenberry, Cherokee blackberry, chosterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, juneberry, lavacaberry, lowberry, lucretiaberry, marionberry, naclarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangaberry, ravenberry, rossberry, Shawnee blackberry, and youngberry), Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Loganberry, Salal.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0 plus Spot Treatment in Cranberry Production and Post-Harvest Treatments in Cranberry Production.

**PRECAUTIONS, RESTRICTIONS:** To avoid damage, herbicide sprays must not be allowed to contact desirable vegetation, including green shoots, canes, or foliage. Allow a minimum of 30 days between last application and harvest in cranberries. Allow a minimum of 14 days between last application and harvest in other berry crops. Do not make directed sprays within the cranberry bush areas prior to berry harvest.

**Spot Treatment in Cranberry Production**

**USE INSTRUCTIONS:** Spot treatments may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. Hand-held sprayers or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. Drop water level to remove standing water in ditches prior to application. In hand-held sprayers, use 1- to 1.5-percent solution of this product. Spray to wet vegetation, not to run-off.

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**PRECAUTIONS, RESTRICTIONS:** For treatments after draw down of water in dry ditches, allow 2 or more days after treatment before reintroduction of water to achieve maximum weed control. Apply this product within 1 day after draw down to ensure application to actively growing weeds. Allow a minimum of 30 days between last application and harvest of cranberries. Do not apply this material through the irrigation system. Do not make applications by air. Do not apply directly to water. Use nozzles that emit medium- to large-sized droplets to minimize drift in order to avoid crop injury.

**Post-Harvest Treatments in Cranberry Production**

**USE INSTRUCTIONS:** Application of this product may be made after the harvest of cranberries to control weeds growing within the field. Best results will be obtained if applications are made to vines that appear dormant (after they have turned red). Hand-held sprayers, wipers, or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. If using hand-held sprayers, use a 0.4- to 0.7-percent solution of this product. Spray to wet vegetation, not to run-off. If using hand-held boom sprayers, apply 44 to 86 fluid ounces of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Make applications only after cranberries have been harvested. Do not treat more than 10 percent of the total bog. Allow a minimum of 6 months after last application and next harvest of cranberries. Do not apply this product through the irrigation system. Do not make applications by air. Do not apply directly to water. Even though vines appear dormant, contact of the herbicide solution with desirable vegetation may result in damage or severe plant injury. Cranberry plants that are directly sprayed may be killed.

**9.2 Citrus**

**LABELED CROPS:** Calamondin, Chironja, Citron, Citrus Hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (all), Pummelo, Satsuma Mandarin, Tangelo (ugli), Tanger.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**USE INSTRUCTIONS:** (The recommendations below pertain to Florida and Texas.)

For burndown or control of the weeds listed below, apply the recommended rates of this product in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 44 to 64 fluid ounces of this product per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 44 fluid ounces per acre when plants are less than 8 inches tall and 64 fluid ounces per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the addition of Krovar® I or Karmex® may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

Perennial weeds:

S = Suppression  
PC = Partial control

B = Burndown  
C = Control

WEED SPECIES	PROTOCOL II RATE PER ACRE			
	0.7 QT	1.3 QT	2 QT	3.3 QT
Bermudagrass	B	—	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	—	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	—	PC	C

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in citrus crops. For citron groves, apply as directed sprays only.

**9.3 Miscellaneous Tree Food Crops**

**LABELED CROPS:** Cactus (fruit and pads), Palm (heart, leaves), Palm (oil).

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**9.4 Non-Food Tree Crops**

**LABELED CROPS:** Pine, Poplar, Eucalyptus, Christmas Trees, Other non-food tree crops.

**TREE, VINE AND SHRUB CROPS 54**

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**NOTE:** Unless otherwise directed, this product is not recommended for use as an over-the-top broadcast spray in plantations or other labeled tree crops.

**Directed Sprays, Spot Treatment, Wiper Applications**

**USE INSTRUCTIONS:** This product may be used as a post-directed spray and spot treatment around established poplar, eucalyptus, Christmas trees and other non-food tree crops.

**PRECAUTIONS, RESTRICTIONS:** Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established Christmas trees and other pine trees. Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

**Site Preparation**

**USE INSTRUCTIONS:** This product may be used prior to planting.

**PRECAUTIONS, RESTRICTIONS:** Precautions should be taken to protect nontarget plants during site preparation applications.

**9.5 Pome Fruit**

**LABELED CROPS:** Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in pome crops.

**9.6 Stone Fruit**

**LABELED CROPS:** Apricot, Cherry (sweet, tart), Nectarine, Olive, Peach, Plum/Prune (all types), Plumcot.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0, except for olive groves, apply as directed sprays only.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 17 days between last application and harvest in stone fruit crops. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications

near trees with recent pruning wounds or other mechanical injury. **EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.**

**9.7 Tree Nuts**

**LABELED CROPS:** Almond, Beechnut, Betelnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Coconut, Filbert (hazelnut), Hickory nut, Macadamia, Pecan, Pine nut, Pistachio, Walnut (black, English)

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 3 days between last application and harvest of tree nuts, except coconut. Allow 14 days between application and harvest in coconut.

**9.8 Tropical and Subtropical Trees and Fruits**

**LABELED CROPS:** Ambarella, Atemoya, Avocado, Banana, Barbados cherry (acerola), Biriba, Blimbe, Breadfruit, Cacao (cocoa) bean, Canistel, Carambola (starfruit), Cherimoya, Coffee, Custard apple, Dates, Durian, Feijoa, Figs, Governor's plum, Guava, Ilaça, Imbe, Imbu, Jaboticaba, Jackfruit, Langan, Lychee, Mamey apple, Mango, Mangosteen, Marmaladebox (genip), Mountain papaya, Papaya, Pawpaw, Plantain, Persimmon, Pomegranate, Pulasan, Rambutan, Rose apple, Sapodilla, Sapote (black, mamey, white), Spanish lime, Sour sop, Star apple, Sugar apple, Surinam cherry, Tamarind, Tea, Ti (roots and leaves), Wax jambu.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0 plus Bananacide (Banana only).

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in banana, guava, papaya, and plantain crops. Allow a minimum of 14 days between last application and harvest for any other tropical or subtropical tree fruit. Allow a minimum of 28 days between last application and harvest in coffee crops. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

**TREE, VINE AND SHRUB CROPS 55**

**TREE, VINE AND SHRUB CROPS 56****Bananacide (Banana only)**

**USE INSTRUCTIONS:** This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus as well as non-infected banana plants to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 0.04 fluid ounce (1 mL) of this product's concentrate per 2 to 3 inches of pseudostem diameter. Make the injection at least one foot above the ground, except for very small plants, which should be injected vertically into the top. Any subsequent regrowth must also be destroyed. All plants and mats (or units) adjacent (within a 4-foot radius) to a treated mat shall be mechanically destroyed.

For control of the Banana Bunchy Top Virus, it is critical that the grower follow a strict control program involving monitoring for diseased plants, spraying to control the aphid vector, and destruction of all infected mats (or units). An infected plant may not show symptoms of the banana bunchy top virus for up to 125 days, therefore it is critical that the entire mat (or unit) containing the diseased plant be destroyed immediately.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 0.5 fluid ounce (15 mL) of this product's concentrate per mat (or unit). Remove all fruit from plants and mats (or units) prior to treatment. Do not harvest any fruit or plant materials from treated mats (or units) following injection. Do not allow livestock to consume treated plant materials. Following transplant of new banana plants into treated areas, allow plants to become established for 3 months before applying this product for general weed control.

**9.9 Vine Crops**

**LABELED CROPS:** Grapes (raisin, table, wine), Hops, Kiwi, Passion fruit.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

Applications should not be made when green shoots, canes or foliage are in the spray zone.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury, or make applications with shielded sprayers or wiper equipment.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 14 days between last application and harvest in vine crops. Do not use selective equipment in kiwi.

**10.0 PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS****10.1 Alfalfa, Clover, and Other Forage Legumes**

**LABELED CROPS:** Alfalfa, Clover, Kenaf, Kudzu, Lespedeza, Leucaena, Lupin, Sainfoin, Trefoil, Velvet bean, Vetch (all types).

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Preharvest (except Kenaf and Leucaena), Spot Treatment, Over-the-Top Wiper Applications, Renovation.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting crops listed in this section. Applications must be made prior to emergence of the crop.

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application. The crop may be fed or grazed as soon as it reaches sufficient maturity.

**Preharvest (except Kenaf and Leucaena)**

**USE INSTRUCTIONS:** This product may be used in declining stands or any stand where severe crop injury or destruction is acceptable. This product will control annual and perennial weeds, including quackgrass, when applied prior to crop harvest. Applications may be made at any time of the year. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control.

**PRECAUTIONS, RESTRICTIONS:** Make only one application to an existing crop stand per year. The treated crop and weeds can be harvested and fed to livestock according to the intervals below.

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	Maximum Single Application Rate*	Minimum Interval between application and harvest/grazing
Alfalfa	44 fluid ounces	36 hours
All other labeled legumes above	32 fluid ounces	3 days

\* By aerial or ground broadcast spray

This application may destroy an alfalfa stand and may severely injure or destroy other labeled crops such as clover. Preharvest application is not recommended for alfalfa grown for seed, as a reduction in germination or vigor may occur.

**Spot Treatment, Over-the-Top Wiper Applications**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators. For wipers, see the "Wiper Applicators" in the "Selective Equipment" section of this label. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than 10 percent of the total field area should be treated at one time. Remove domestic livestock before application and wait 3 days after application before grazing livestock or harvesting.

**Renovation**

**USE INSTRUCTIONS:** This product may be applied as a broadcast spray to renovate existing stands of alfalfa, clover, and other labeled forage legumes. If the crop is to be grazed or harvested for feed, use up to 44 fluid ounces per acre in alfalfa and up to 32 fluid ounces per acre in other labeled legumes. For complete removal of established stands of clover, it may be necessary to use the higher treatment rates listed in the "PERENNIAL WEEDS RATE SECTION".

**PRECAUTIONS, RESTRICTIONS:** When treatment rates of 44 fluid ounces per acre for alfalfa or 32 fluid ounces per acre for other forage legumes are used, remove domestic livestock before application and wait 3 days after application before reintroduction. If treatment rates above these levels are necessary, do not graze or harvest treated foliage for livestock feed. Crops listed for treatment in this label may be planted into the treated area at

any time; for other crops, wait 30 days between application and planting.

**10.2 Conservation Reserve Program (CRP)**

**TYPES OF APPLICATIONS:** Renovation (rotating out of CRP), Site Preparation, Postemergence Weed Control in Dormant CRP Grasses, Over-the-Top Wiper Applications.

**Renovation (Rotating out of CRP), Site Preparation**

**USE INSTRUCTIONS:** This product may be used to prepare CRP land for crop production. Refer to federal, state or local use guides for CRP renovation recommendations. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting.

**Postemergence Weed Control in Dormant CRP Grasses, Over-the-Top Wiper Applications**

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 8 to 11 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 2 quarts per acre per year onto CRP grasses.

**10.3 Grass Seed or Sod Production**

**LABELED CROPS:** Any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in this label under "Cereal and Grain Crops".

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Renovation, Removal of Established Stands, Site Preparation, Shielded

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Sprayers, Over-the-Top Wiper Applications, Spot Treatment, Creating Rows in Annual Ryegrass.

Preplant, Preemergence, At-Planting, Renovation, Removal of Established Stands, Site Preparation

**USE INSTRUCTIONS:** This product controls most existing vegetation prior to renovating turf or forage grass seed areas or establishing turf grass grown for sod. It may also be used to destroy remaining undesired grass vegetation when production fields are converted to alternate species or crops. Make applications before, during, or after planting or for renovation. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as Bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates up to 3.3 quarts per acre may be used to totally remove established stands of tough to kill grass species.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting. Applications must be made prior to the emergence of the crop to avoid crop injury.

#### Shielded Sprayers

**USE INSTRUCTIONS:** Apply 22 to 64 fluid ounces of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aid in shielded sprayer applications.

Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields. For additional instructions, see "Hooded and Shielded Applicators" in the "Selective Equipment" section.

**PRECAUTIONS, RESTRICTIONS:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

#### Over-the-Top Wiper Applications

**USE INSTRUCTIONS:** Applicators should be adjusted so that the wiper contact point is at least 2 inches above the desirable vegetation. Weeds should be a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when height of weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. For additional instructions, see "Wiper Applicators" in the "Selective Equipment" section.

**PRECAUTIONS, RESTRICTIONS:** Contact of the herbicide solution with desirable vegetation may result in damage or destruction.

#### Spot Treatment

**USE INSTRUCTIONS:** Use a 1.0-percent solution.

**PRECAUTIONS, RESTRICTIONS:** Apply this product prior to heading of grasses grown for seed. The crop receiving the spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason. Hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

#### Creating Rows in Annual Ryegrass

**USE INSTRUCTIONS:** Use 11 to 22 fluid ounces of this product per acre. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height.

**PRECAUTIONS, RESTRICTIONS:** Set nozzle heights to allow the establishment of the desired row spacing while preventing spray droplets, spray fines, or drift to contact the ryegrass plants not treated. Use of low-pressure nozzles, or drop nozzles designed to target the application over a

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narrow band are recommended.

Grower assumes all responsibility for crop losses from misapplication.

### 10.4 Pastures

**LABELLED CROPS:** Any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in this label under "Cereal and Grain Crops", including Bahiagrass, Bermudagrass, Bluegrass, Brome, Fescue, Guinea grass, Kikuyugrass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass.

**TYPES OF APPLICATIONS:** Preplant, Preemergence, Pasture Renovation, Spot Treatment, Over-the-Top Wiper Applications, Postemergent Weed Control (Broadcast Treatments).

#### Preplant, Preemergence, Pasture Renovation

**USE INSTRUCTIONS:** This product may be applied prior to planting or emergence of forage grasses. In addition, this product may be used to control perennial pasture species listed on this label prior to re-planting.

**PRECAUTIONS, RESTRICTIONS:** If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding of livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Crops listed for treatment in this label may be planted into the treated area at any time; for other crops, wait 30 days between application and planting.

#### Spot Treatment, Over-the-Top Wiper Applications

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatments or wiper application methods using rates of 2 quarts per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper application are made using rates above 2 quarts per acre, no more than 10 percent of the total pasture may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting.

#### Postemergent Weed Control (Broadcast Treatments)

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of annual weeds and undesirable vegetation in pastures. For selective applications with broadcast spray equipment, apply 8 to 11 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Use of higher application rates will cause stand reductions. Do not apply more than 2 quarts per acre per year onto pasture grasses except for renovation uses (see instructions above). If replanting is needed due to severe stand reduction, applications must be made at least 30 days prior to planting any crop not listed for treatment in this label.

### 10.5 Rangelands

**TYPES OF APPLICATIONS:** Postemergence.

This product will control or suppress many annual weeds growing in perennial cool and warm-season grass rangelands.

Preventing viable seed production is key to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years should eliminate most of the viable seeds.

Grazing of treated areas should be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.

**USE INSTRUCTIONS:** Apply 8 to 11 fluid ounces of this product per acre to control or suppress many weeds, including downy brome, cheatgrass, cereal rye and jointed goatgrass in rangelands. Apply when most brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Fall applications are possible, and recommended, where spring moisture is usually limited and fall

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germination allows for good weed growth.

For medusahead, apply 11 fluid ounces of this product per acre at the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Controlled burning may be useful in eliminating the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a burn. Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses in medusahead-dominated rangelands.

**PRECAUTIONS, RESTRICTIONS:** Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off. Do not use ammonium sulfate when spraying rangeland grasses with this product. No waiting period between treatment and feeding of livestock grazing is required. Do not apply more than 2 quarts per acre per year.

**11.0 ROUNDUP READY CROPS**

The following instructions or those separately published on Monsanto Supplemental labeling include all applications which can be made onto the specified Roundup Ready crops during the complete cropping season. Do NOT combine these instructions with other recommendations made for crops that do not contain a Roundup Ready gene, in the "ANNUAL AND PERENNIAL CROPS (Alphabetical)" section of this label, unless otherwise directed in this product label, supplemental labeling or fact sheets published separately by Monsanto.

**MONSANTO COMPANY RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON CROPS DESIGNATED AS CONTAINING A ROUNDUP READY GENE.**

Applying this product to crops that are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants that do not contain the Roundup Ready gene, since severe injury or destruction will result.

The Roundup Ready designation indicates that the crop variety contains a patented gene that provides tolerance to this product. Information on Roundup Ready crops may be obtained from your seed supplier or Monsanto representative. Roundup Ready crops must be purchased from

an authorized licensed seed supplier.

**NOTE:** Roundup Ready seed, and the method of selectively controlling weeds in a Roundup Ready crop by applying glyphosate to the weeds and Roundup Ready crop are protected under several U.S. Patents, including 5,352,605 and 5,633,435. A license to use Roundup Ready seed must be obtained prior to use. Monsanto retains ownership of the gene and process technologies, and the Purchaser of the seed receives the right to use the licensed genes and technologies subject to the limited use license conditions. Seed containing the Roundup Ready trait cannot be used for research and demonstration, reverse engineering or in connection with herbicide registration. Progeny seed containing the Roundup Ready trait cannot be saved for replanting or transferred to others for replanting. Contact your Authorized Monsanto Retailer for information on obtaining a limited use license.

For ground applications with broadcast equipment, apply this product in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment use flat spray nozzles. Check for even distribution of spray droplets.

For aerial applications apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for procedures to avoid spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

For proper stewardship of aerial applications over-the-top of Roundup Ready crops, Monsanto recommends that growers and applicators read and follow all precautions and procedures contained in the use guide "A Guide to On-Target Aerial Application" available by calling 1-800-ROUNDUP (1-800-768-6387).

**ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.**

See the "MOUNG" and "APPLICATION EQUIPMENT AND TECHNIQUES" sections of this label for additional directions and restrictions on the application of this product.

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Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers may result in reduced weed control or crop injury and are NOT recommended for over-the-top applications of this product unless otherwise noted in this product label, supplemental labeling or fact sheets published separately by Monsanto.

Unless otherwise directed, nonionic surfactant may be added to the spray solution for applications to Roundup Ready crops. The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Refer to individual crops within this section of this label or separately published supplemental labeling for additional precautions or restrictions. In addition, always read and carefully observe cautionary statements and other information appearing on the surfactant label.

Ammonium sulfate may be mixed with this product for applications to Roundup Ready crops. Refer to the "MIXING" section for use instructions for ammonium sulfate.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product. Follow the cleaning procedures specified on the label of the product(s) previously used. THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.

**NOTE:** The following recommendations are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burndown treatment of this product is recommended to control existing weeds prior to crop emergence. Some weeds, such as black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sandbur, annual morningglory, woolly cupgrass, shattercane, wild proso millet, burcucumber, and giant ragweed with multiple germination times or suppressed (stunted) weeds may require a second application of this product for complete control. The second application should be made after some regrowth has occurred and at least 10 days after a previous application of this product.

**11.1 Canola-Roundup Ready**

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence.

**DO NOT USE THIS PRODUCT ON CANOLA CONTAINING A ROUNDUP READY GENE PLANTED IN THE FOLLOWING STATES: ALABAMA, DELAWARE, FLORIDA, GEORGIA, KENTUCKY, MARYLAND, NEW JERSEY, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, VIRGINIA AND WEST VIRGINIA, EXCEPT FOR USES IN WILDLIFE FOOD PLOTS THAT WILL NOT BE HARVESTED FOR HUMAN OR LIVESTOCK FOOD.**

Maximum Allowable Combined Application Quantities Per Season	
Preplant, At-Planting, Preemergence applications	44 fluid ounces per acre
Total in-crop application from emergence to 6-leaf stage	22 fluid ounces per acre

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting canola.

**Postemergence**

**USE INSTRUCTIONS:** This product may be applied postemergence to Roundup Ready Spring canola from emergence through the 6-leaf stage of development. Applications made during bolting or flowering may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

**Weeds Controlled:** For specific rates of application and instructions, refer to the "ANNUAL" and "PERENNIAL WEEDS RATE SECTIONS" in this label.

**Single Application**—Apply 11 to 16 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications that may result in temporary yellowing, delayed flowering, and or growth reduction. Similar injury may result when applications of more than 11 fluid ounces per acre are applied after the 4-leaf stage.

**Sequential Application**—Apply 11 fluid ounces per acre to 1- to 3-leaf

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canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential applications are recommended for early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass or when controlling weeds with multiple application times.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. No more than two over-the-top broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total in-crop application should not exceed 22 fluid ounces per acre. Allow a minimum of 60 days between last application and canola harvest.

**NOTE:** The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Always read and carefully observe cautionary statements and other information appearing on the surfactant label.

**11.2 Corn-Roundup Ready**

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence (in-crop), Spot Treatment, Preharvest, Post-Harvest

**Maximum Allowable Combined  
Application Quantities Per Season**

Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
In-crop applications	
Roundup Ready Corn from emergence through V8 or 30 inches	44 fluid ounces per acre (22 fluid ounces per acre per application)
Roundup Ready Corn 2 from emergence through 48 inches	64 fluid ounces per acre (32 fluid ounces per acre per application)
Preharvest application	22 fluid ounces per acre
	See PRECAUTIONS, RESTRICTIONS section for Preharvest applications.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied alone or in a tank-mixture before, during or after planting corn.

**TANK MIXTURES:** This product may be tank mixed with Bullet®, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, Lariat, Lasso or Micro-Tech at 50 to 100 percent of labeled rate. Refer to the specific product label and observe all precautions and limitations on the label for any preemergence herbicide application, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines—the more restrictive requirements apply.

**NOTE:** For maximum weed control, a postemergence (in-crop) application of this product should be applied following the use of less than labeled rates of the preemergence residual products listed above.

**Postemergence (in-crop)**

**USE INSTRUCTIONS:** This product may be applied alone or in tank mixtures postemergence (in-crop) to corn hybrids designated as Roundup Ready Corn or Roundup Ready Corn 2. When applied as directed, this product controls labeled annual grass and broadleaf weeds. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. A postemergent application of 16 to 22 fluid ounces per acre of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop, generally 4 inch tall weeds or less. If new flushes of weeds occur, a sequential application of this product at 16 to 22 fluid ounces per acre will control the labeled grasses and broadleaf weeds.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label booklet for general precautionary instructions for use in Roundup Ready Crops. Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage or grain. The use of additional surfactant or other additives, including fertilizers and micro-nutrients in the spray solution may result in crop injury and reduced yield and is not recommended for over-the-top applications of this product to Roundup Ready Corn or Roundup Ready Corn 2, unless otherwise directed in supplemental labeling or fact

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sheets published separately by Monsanto.

**Specific use Instructions:**

• **Roundup Ready Corn:** This product may be applied over-the-top broadcast or with drop nozzles postemergence to Roundup Ready Corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first. Drop nozzles are recommended for optimum spray coverage and weed control when corn height is 24 to 30 inches.

**PRECAUTIONS, RESTRICTIONS:** Single in-crop applications of this product are not to exceed 22 fluid ounces per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 44 fluid ounces per acre per growing season.

• **Roundup Ready Corn 2:** This product may be applied over-the-top broadcast or with drop nozzles postemergence to Roundup Ready Corn 2 from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches (free standing), whichever comes first. Drop nozzles are recommended for optimum spray coverage and weed control when corn height is 24 to 30 inches. For corn heights 30 to 48 inches (free standing), apply this product only using ground application equipment equipped with drop nozzles aligned to avoid spraying into the whorls of the corn plants.

**PRECAUTIONS, RESTRICTIONS:** Single in-crop applications of this product should not exceed 32 fluid ounces per acre. Sequential in-crop applications of this product from emergence through 48 inches in height must not exceed a total of 64 fluid ounces per acre per growing season.

**Postemergence tank mixtures:** This product may be applied in tank mixture with Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, and Micro-Tech at 50 to 100 percent of their labeled rate. This product may be applied in tank mixture with Permit<sup>®</sup>, Yukon<sup>®</sup> and atrazine at their labeled rates. Refer to the specific product label and observe all precautions and limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines—the more restrictive requirements apply. The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water

may increase the performance of this product under hard water conditions, drought conditions or when tank mixed with Degree Xtra, Harness Xtra, Harness Xtra 5.6L, Bullet, Micro-Tech or Atrazine herbicides.

Tank-Mix Partner	Maximum Height of Corn For Application
Degree Degree Xtra Harness Harness Xtra Harness Xtra 5.6 L	11 inches
Bullet* Micro-Tech*	5 inches
Permit Yukon	30 inches
Atrazine	12 inches

\*Bullet and Micro-Tech are not registered for use as a postemergence application in Texas.

**Preharvest**

**USE INSTRUCTIONS:** This product can be applied preharvest at use rates up to 22 fluid ounces per acre. Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest or feeding of corn stover or grain. In Roundup Ready Corn 2, a preharvest application may only be made if the combined total of previously applied over-the-top or drop nozzle applications does not exceed 44 fluid ounces of this product per acre.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

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**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

**11.3 Cotton-Roundup Ready**

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Selective Equipment (hooded sprayers), Preharvest.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton.

**Selective Equipment (Hooded sprayers)**

**USE INSTRUCTIONS:** This product may be applied using precision hooded sprayers at rates up to 22 fluid ounces per acre per application to Roundup Ready cotton through layby. For best results, make applications while weeds are small (less than 3 inches).

**PRECAUTIONS, RESTRICTIONS:** See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

**Preharvest**

**USE INSTRUCTIONS:** This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20 percent boll crack. Up to 44 fluid ounces of this product may be applied using either aerial or ground spray equipment. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Do not apply this product to cotton grown for seed, as a reduction in germination or vigor may occur. **DO NOT ADD SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR APPLICATIONS MADE AT A PREHARVEST TIMING IN COTTON.**

**ATTENTION: USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL**

**DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON. HOWEVER, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.**

**11.4 Soybeans-Roundup Ready**

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence, Preharvest, Post-Harvest.

<b>Maximum Allowable Combined Application Quantities Per Season</b>	
Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total in-crop applications from cracking throughout flowering	64 fluid ounces per acre
Maximum preharvest application rate	22 fluid ounces per acre

**PRECAUTIONS/RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting soybeans.

**Postemergence**

**USE INSTRUCTIONS:** When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Applications of this product can be made in Roundup Ready soybeans from emergence (cracking) throughout flowering. Refer to the "ANNUAL

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**WEEDS RATE SECTION** in this label for rate recommendations for specific annual weeds. In general, an initial application of 22 fluid ounces per acre on 2 to 8 inch tall weeds is recommended. Weeds will generally be 2 to 8 inches tall, 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 44 fluid ounces per acre in any single in-crop application for control of annual weeds and where heavy weed densities exist.

A 22- to 44-fluid-ounce per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: Bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horse nettle, mare's tail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpet creeper, swamp smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this may be necessary to control late flushes of weeds. IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY SOYBEAN CROP. To control giant ragweed, it is recommended that 22 fluid ounces per acre of this product be applied when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for a sequential application.

**PRECAUTIONS, RESTRICTIONS:** The combined total application from crop emergence through harvest must not exceed 64 fluid ounces per acre. The maximum rate for any single in-crop application is 44 fluid ounces per acre. The maximum combined total of this product that can be applied during flowering is 44 fluid ounces per acre.

**NOTE:** The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Always read and carefully observe cautionary statements and other information appearing on the surfactant label.

**Preharvest**

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans. Up to 22 fluid ounces per acre of this prod-

uct can be applied by aerial or ground application.

**PRECAUTIONS, RESTRICTIONS:** Care should be taken to avoid excessive seed shatter loss due to ground application equipment. Allow a minimum of 14 days between final application and harvest of soybean grain or feeding of soybean grain, forage or hay.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of Roundup Ready soybeans. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**12.0 NON-CROP USES AROUND THE FARMSTEAD**

**TYPES OF APPLICATIONS:** General Weed Control, Trim-and-Edge, Greenhouse/Shadehouse, Chemical Mowing, Cut Stump, Habitat Management.

**12.1 General Weed Control and Trim-and-Edge**

**USE INSTRUCTIONS:** This product may be used to control annual weeds, perennial weeds and woody brush which are found in any part of the farmstead, including building foundations, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 22 fluid ounces per acre of this product when weeds are less than 6 inches tall, 32 fluid ounces per acre when weeds are 6 to 12 inches tall and 44 fluid ounces per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 44 fluid ounces to 3.3 quarts per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, hand-

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guns or other high-volume spray-to-wet applications, see the "ANNUAL WEEDS—HAND-HELD OR HIGH VOLUME EQUIPMENT" section of this label for recommended rates.

Arsenal®	Plateau®
Banvel/Clarity	Princep® DF
Barricade™ 65WG	Princep Liquid
Diuron	Ronstar 50 WP
Endurance®	Sahara
Escort®	Simazine
Karmex DF	Surflan®
Krovar I DF	Telar®
Oust®	Vanquish®
Pendulum® 3.3 EC	2,4-D
Pendulum WDG	

This product plus dicamba tank mixtures may not be applied by air in California.

**12.2 Greenhouse/  
Shadehouse**

This product may be used to control weeds in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

**12.3 Chemical Mowing**

**USE INSTRUCTIONS:** This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 4 fluid ounces of this product per acre when treating Kentucky bluegrass. Use 4 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, bahiagrass or quackgrass covers. Use 11 fluid ounces of this product per acre when treating Bermudagrass. Use 44 fluid ounces of this product per acre when treating torpedograss or paragrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

**PRECAUTIONS, RESTRICTIONS:** Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

**12.4 Cut Stump**

**TYPES OF APPLICATION:** Treating cut stumps in any non-crop site listed on this label

**USE INSTRUCTIONS:** This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder	Reed, giant
Eucalyptus	Saltcedar
Madrone	Sweetgum
Oak	Tan oak
Pepper, Brazilian	Willow
Pine, Austrian	

**PRECAUTIONS, RESTRICTIONS:** Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

**12.5 Habitat Management**

**TYPES OF USES:** Habitat Restoration and Maintenance, Wildlife Food Plots.

**Habitat Restoration and Maintenance**

**USE INSTRUCTIONS:** This product may be used to control exotic and

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other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement.

**Wildlife Food Plots**

**USE INSTRUCTIONS:** This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species, including Roundup Ready canola, may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage. For specific product application instructions in Roundup Ready canola wildlife food plots, see the "Canola—Roundup Ready" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Do not process treated Roundup Ready canola seed from wildlife food plots for food or domestic livestock feed. Do not graze or feed treated Roundup Ready canola from wildlife food plots to domestic livestock. There are no rotational restrictions for planting any wildlife food species or for allowing native species to repopulate the area following applications of this product.

**13.0 INDUSTRIAL, TURF AND ORNAMENTAL**

Detailed instructions follow alphabetically, by site.

Unless otherwise specified, applications may be made to control any weeds listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" of this label. Refer also to the "Selective Equipment" section.

**13.1 Cut Stump**

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species, some of

which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder	Salcedar
Eucalyptus	Sweetgum
Madrone	Tan oak
Oak	Willow
Reed, giant	

**DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP.** Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

**13.2 General Non-Crop Areas, Industrial Sites**

Use in areas such as airports, apartment complexes, ditch banks, dry ditches, dry canals, fencerows, golf courses, industrial sites, lumber yards, manufacturing sites, office complexes, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, substations, warehouse areas, other public areas, and similar industrial and non-crop sites.

**General Weed Control, Trim-and-Edge, Bare Ground**

This product may be used in general non-crop areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in non-crop sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds

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growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects. Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites. Refer to these product's labels for approved non-crop sites and application rates.

Arsenal	Pendulum 3.3 EC
Clarity	Pendulum WDG
Barricade 55WG	Plateau
Diuron	Princep DF
Endurance	Princep Liquid
Escort	Ronstar™ 50WP
Garlon™ 3A	Sahara®
Garlon 4	Simazine
Karmex DF	Surflan
Krovar I DF	Telar
Manage®	Vanquish
Oust	2,4-D

This product plus dicamba tank mixtures may not be applied by air in California.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 22 to 44 fluid ounces of this product plus 2 to 4 ounces of Oust per acre.

Bahiagrass	Fescue, tall
Bermudagrass	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Quackgrass
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

**Chemical Mowing - Perennials**

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 4 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 4 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

**Chemical Mowing - Annuals**

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 3 to 4 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

**Bromus Species and Medusahead in Pastures and Rangelands**

**Bromus species.** This product may be used to treat downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*) and cheatgrass (*Bromus setaceus*) found in industrial, rangeland and pasture sites. Apply 6 to 11 fluid ounces of this product per acre on a broadcast basis.

For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses can become reestablished on the site.

**Medusahead.** To treat medusahead, apply 11 fluid ounces of this product per acre as soon as plants are actively growing and prior to the 4-leaf stage. Applications may be made in the fall or spring.

Applications to brome and medusahead may be made using ground or aerial equipment. Aerial applications for these uses may be made using

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fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre. When applied as directed in this label, there are no grazing restrictions.

**Dormant Turfgrass**

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant Bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring greenup.

Apply 6 to 44 fluid ounces of this product per acre. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 11 fluid ounces per acre may result in injury or delayed greenup in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Dust in highly maintained turfgrass areas. For further uses, refer to the "Roadsides" section of this label, which gives rates for dormant Bermudagrass and bahiagrass treatments.

**Actively Growing Bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. DO NOT apply more than 11 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Dust in highly maintained turfgrass areas. For further uses, refer to the "Roadsides" section of this label, which gives rates for actively growing Bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

**Turfgrass Renovation, Seed, Sod Production**

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as

Bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

**13.3 Habitat Management****Habitat Restoration and Management**

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

**Wildlife Food Plots**

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

**INDUSTRIAL AND NON-CROP 84****13.4 Injection and Frill  
(Woody Brush and Trees)**

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 0.04 fluid ounce (1 mL) of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50- to 100-percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100-percent concentration of this product. For best results, application should be made during periods of active growth and after full leaf expansion. This product will control many species, some of which are listed below:

<u>Control</u>	<u>Partial Control</u>
Oak	Blackgum
Poplar	Dogwood
Sweetgum	Hickory
Sycamore	Maple, red

**13.5 Ornamentals, Plant Nurseries, and Christmas Trees****Post-Directed, Trim-and-Edge**

This product may be used as a post-directed spray around established woody ornamental species such as arbovitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, Douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce and yew. This product may also be used to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting.

Desirable plants may be protected from the spray solution by using

shields or coverings made of cardboard or other impermeable material. UNLESS OTHERWISE DIRECTED, THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

**Site Preparation**

This product may be used prior to planting any ornamental, nursery or Christmas tree species.

**Wiper Applicators**

This product may be used through wick or other suitable wiper applicators to control or partially control undesirable vegetation around established eucalyptus or poplar trees. See the "Selective Equipment" section of this label for further information about the proper use of wiper applicators.

**Greenhouse/Shadehouse**

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

**13.6 Parks, Recreational and Residential Areas**

This product may be used in parks, recreational and residential areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around trees, fences, and paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation. This product may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

All of the instructions in the "General Non-Crop Areas And Industrial Sites" section apply to park and recreational areas.

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**INDUSTRIAL AND NON-CROP****13.7 Railroads**

All of the instructions in the "General Non-Crop Areas And Industrial Sites" section apply to railroads.

**Bare Ground, Ballast and Shoulders, Spot Treatment**

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites, for ballast, shoulder, spot, bare ground and crossing treatments:

Arsenal	Kroyer I DF
Clarity	Dust
Dicron	Sahara
Escort	Spike
Garlon 3A	Telar
Garlon 4	Vanquish
Hyvar™ X	2,4-D

**Brush Control**

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 2.5 to 7 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a D,7- to 1.5-percent solution of this product when using high-volume spray-to-wet applications. Apply a 4- to 7-percent solution of this product when using low volume directed sprays for spot treatment. This product may be mixed with the following products for enhanced control of woody brush and trees:

Arsenal	Garlon 4
Escort	Torden® X
Garlon 3A	

**Bermudagrass Releases**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 1.1 to 3.2 fluid ounces of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahia grass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vasey grass

This product may be tank mixed with Dust. If tank mixed, use no more than 1.1 to 3.2 fluid ounces of this product with 1 to 2 ounces of Dust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Dust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahia grass	Fescue, tall
Blackberry	Johnsongrass
Bluestem, silver	Poa
Bromsedge	Raspberry
Dallis grass	Trumpet creeper
Dewberry	Vasey grass
Dock, curly	Vernain, blue
Dogfennel	

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may occur.

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**INDUSTRIAL AND NON-CROP 88****13.8 Roadsides**

All of the instructions in the "General Non-Crop Areas And Industrial Sites" section apply to roadsides.

**Shoulder Treatments**

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

**Guardrails and Other Obstacles to Mowing**

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

**Spot Treatment**

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for such non-crop treatments:

Clarity	Princep DF
Diuron	Princep Liquid
Endurance	Ronstar 50 WP
Escort	Sahara
Krovar 1 DF	Simazine
Oust	Surflan
Outrider®	Telar
Pendulum 3.3 EC	Vanquish
Pendulum WDG	2,4-D

See the "General Non-Crop Areas And Industrial Sites" section of this label for general instructions for tank mixing.

**Release of Bermudagrass or Bahiagrass****Dormant Applications**

This product may be used to control or partially control many winter

annual weeds and tall fescue for effective release of dormant Bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring green-up. This product may also be tank mixed with Outrider® or Oust® for residual control. Tank mixtures of this product with Oust may delay green-up.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 6 to 44 fluid ounces of this product in a tank mixture with 0.75 to 1.3 ounces Outrider herbicide per acre. Read and follow all label directions for Outrider herbicide.

Apply 6 to 44 fluid ounces of this product per acre alone or in a tank mixture with 0.25 to 1 ounce per acre of Oust. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add no more than 1 ounce of Oust per acre on Bermudagrass and no more than 0.5 ounce of Oust per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

**Actively Growing Bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 11 to 32 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank mixed with Outrider for control or partial control of Johnsongrass and other weeds listed in the Outrider label. Use 6 to 22 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider.

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**INDUSTRIAL AND NON-CROP 90**

Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height.

This product may be tank mixed with Oust. If tank mixed, use no more than 11 to 22 fluid ounces of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Bluestem, silver	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Trumpet creeper
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not recommended, since severe injury may occur.

**Actively Growing Bahiagrass**

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 2 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

This product may be used for control or partial control of Johnsongrass and other weeds listed on the Outrider label in actively growing bahiagrass. Apply 1 to 3.3 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider per acre. Use the higher rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well established bahiagrass.

A tank mixture of this product plus Oust may be used. Apply 4 fluid ounces

of this product plus 0.25 ounce of Oust per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

**14.0 ANNUAL WEEDS RATE SECTION**

When water carrier volumes are between 16 and 40 gallons per acre for ground applications and between 6 and 15 gallons per acre for aerial applications, the following use rates will control the annual weeds listed in the table below:

- 22 fluid ounces per acre—grass and broadleaf annual weeds less than 6 inches in height or circumference and vines less than 3 inches in length.
- 32 fluid ounces per acre—grass and broadleaf annual weeds 6 to 12 inches in height or circumference and vines 3 to 6 inches in length.
- 44 fluid ounces per acre—grass and broadleaf annual weeds greater than 12 inches in height or circumference and vines greater than 6 inches in length.

**WHEN WATER CARRIER VOLUMES ARE BETWEEN 3 AND 15 GALLONS PER ACRE FOR GROUND APPLICATIONS AND BETWEEN 3 AND 5 GALLONS PER ACRE FOR AERIAL APPLICATIONS, USE THE RATES SPECIFIED FOR INDIVIDUAL WEEDS AS FOLLOW IN THE "ANNUAL WEEDS RATE TABLE" (Alphabetically by Species).**

Apply to actively growing annual weeds. Annual weeds are generally easiest to control when they are small.

Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

\*Maximum size refers to the maximum plant height, length of runners for vines or circumference of rosette plants in inches.

Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.

For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

This product may be used up to 44 fluid ounces per acre where heavy weed densities exist.

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**ANNUAL WEEDS RATE SECTION 92****ANNUAL WEEDS RATE TABLE**

WEED SPECIES	RATE (fluid ounces per acre)				
	11	16	22	27	32
	Maximum size (in inches)				
Annua, purple	3	6	12	-	18
Annua, spurred	-	2	3	5	8
Barley	18	18	-	-	-
Barnyardgrass	-	3	6	7	9
Bassia, live oak	-	-	6	-	-
Beggarweed, Florida	-	5	8	-	-
Bimacross	12	20	-	-	-
Bluegrass, annual	10	-	-	-	-
Bluegrass, bulbous	6	-	-	-	-
Brome, downy	6	12	-	-	-
Brome, Japanese	6	12	24	-	-
Brown top panicum	6	8	12	-	24
Buckwheat, wild	-	1	2	-	-
Burcucumber	-	6	12	-	18
Buttercup	12	20	-	-	-
Carolina geranium	-	-	4	-	9
Carpenterweed	-	6	12	-	-
Cheat	6	20	-	-	-
Chenopod	20	-	-	-	-
Chickweed	-	12	18	-	-
Cockspur	12	18	24	-	36
Copperleaf, hopbush	-	2	4	-	6
Copperleaf, Virginia	-	2	4	-	6
Coreopsis, plains	-	6	12	-	18
Corn, volunteer	6	12	20	-	-
Corn speedwell	12	-	-	-	-
Crochard	3	6	12	-	-
Crowfootgrass	-	-	6	-	12
Cutleaf evening primrose	-	-	3	-	6
Devilsclaw (unicorn plant)	-	3	6	-	-
Dwarf dandelion	12	-	-	-	-
Eastern manna grass	8	12	-	-	-
Echino	-	4	8	12	-

Fall panicum	4	-	6	-	12
Falsedandelion	-	20	-	-	-
Fiddleneck	-	6	12	-	-
Field pennycress	6	12	-	-	-
Filaree	-	-	6	-	12
Fleabane, annual	6	20	-	-	-
Fleabane, hairy (Conyza bonariensis)	-	-	6	-	10
Fleabane, rough	3	6	12	-	-
Florida pusley	-	-	4	-	6
Florida, giant, bristly, yellow	6	12	20	-	-
Footail, Carolina	10	-	-	-	-
Footail, green	12	-	-	-	-
Goatgrass, jointed	6	12	-	-	-
Goosegrass	-	3	6	-	12
Grain sorghum (milo)	6	12	20	-	-
Ground cherry	-	3	6	-	9
Groundsel, common	-	6	10	-	-
Hemp sesbania	-	2	4	6	8
Henbit	-	-	6	-	12
Horseweed, Marechal (Conyza canadensis)	-	6	12	-	18
Itchgrass	6	8	12	-	18
Jimsonweed	-	-	12	-	18
Johnsongrass, seedling	6	12	18	-	24
Juncos	-	3	6	7	9
Knotweed	-	-	6	-	12
Kochia	-	3 to 6	12	-	-
Lambsquarters	-	6	12	-	20
Little barley	6	12	-	-	-
London rocket	6	-	24	-	-
Mayweed	-	2	6	12	18
Morning glory, annual (Ipomoea spp)	-	-	3	-	6
Mustard, blue	6	12	18	-	-
Mustard, tansy	6	12	18	-	-

**ANNUAL WEEDS RATE SECTION 93**

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**ANNUAL WEEDS RATE SECTION 94****ANNUAL WEEDS RATE TABLE**

WEED SPECIES	RATE (fluid ounces per acre)			
	11	16	22	27
	Maximum size (in inches)			
Mustard, tumble	6	12	18	-
Mustard, wild	6	12	18	-
Nightshade, black	-	4	6	12
Nightshade, hairy	-	4	6	12
Oats	3	6	18	-
Pigweed species	-	12	18	24
Prickly lettuce	-	6	12	-
Purslane	-	-	3	6
Ragweed, common	-	6	12	18
Ragweed, giant	-	6	12	18
Red rice	-	-	4	-
Rye, volunteer/cereal	6	18	18	-
Ryegrass	-	-	6	12
Sandbur, field	6	12	-	-
Sandbur, longspine	6	12	-	-
Shattercane	6	12	20	-
Shepherd's-purse	6	12	-	-
Sicklepod	-	2	4	8
Signalgrass, broadleaf	-	3	6	9
Smartweed, ladythumb	-	-	6	9
Smartweed, Pennsylvania	-	-	6	9
Sowthistle, annual	-	-	6	12
Spanishneedles	-	-	6	12
Sprangletop	6	12	20	-
Spurge, prostrate	-	6	12	-
Spurge, spotted	-	6	12	-
Spurry, umbrella	6	-	-	-
Sunkgrass	-	12	-	-
Sunflower	12	18	-	-
Swinecress	-	5	12	-

Teaweed, prickly sida	2	4	6
Texas panicum	6	8	12
Thistle, Russian <sup>1</sup>	6	12	24
Velvetleaf	-	6	12
Virginia pepperweed	-	18	-
Waterhemp	-	6	12
Wheat <sup>2</sup>	6	12	18
Wheat (overwintered)	-	6	12
Wild oats	3	6	18
Wild proso millet	-	6	12
Wild rice	-	12	-
Woolly cupgrass	-	6	12
Yellow rocket	-	12	20

<sup>1</sup>For control of downy brome in no-till systems, use 16 fluid ounces per acre.

<sup>2</sup>Performance is better if application is made before this weed reaches the boot stage of growth.

<sup>3</sup>Use 16 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 22 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 22 fluid ounces followed by 22 fluid ounces of this product per acre.

<sup>4</sup>Do not treat kochia in the button stage.

<sup>5</sup>Control of Russian thistle may vary based on environmental conditions and spray coverage. Whenever possible, a tank mixture with 2,4-D as described below may improve control.

**14.1 Annual Weeds—Tank Mixtures with 2,4-D, Dicamba or Tordon 22K**

8 to 11 fluid ounces of this product plus 0.25 pound of dicamba or 0.5 pound of 2,4-D or 1 to 2 fluid ounces of Tordon 22K per acre will control the following weeds with the maximum height or length indicated: 6 inches—prickly lettuce, mare's tail/horseweed, morning glory, kochia (dicamba only) wild buckwheat (Tordon 22K only); 12 inches—cocklebur, lambsquarters, pigweed, Russian thistle (2,4-D only).

**ANNUAL WEEDS RATE SECTION 95**

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**ANNUAL WEEDS RATE SECTION 96**

11 fluid ounces of this product plus 0.5 pound of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Ensure that the specific product is registered for application at the desired site. Some crop injury may occur if dicamba or Tordon 22K is applied within 45 days of planting.

DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.

**14.2 Annual Weeds—Hand-Held or High-Volume Equipment**

For control of weeds listed in the "ANNUAL WEEDS RATE SECTION", apply a 0.4-percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 0.7-percent solution.

For best results, use a 1.5-percent solution on harder-to-control perennials, such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods that result in less than complete coverage, use a 4-percent solution for annual and perennial weeds and a 4- to 7-percent solution for woody brush and trees.

**14.3 Annual Weeds—Tank Mixtures with Atrazine for Fallow and Reduced Tillage Systems**

For use only in Colorado, Kansas, Nebraska, Oklahoma, Oregon, South Dakota, and Washington. In Oregon and Washington, do not exceed 1 pound of atrazine per acre.

16 to 20 fluid ounces of this product plus 1 to 2 pounds of atrazine per acre will control the following weeds: barnyardgrass (requires 20 fluid ounces for control), downy brome, green foxtail, lambsquarters, prickly lettuce, tansy mustard, pigweed, field sandbur, stinkgrass, Russian thistle,

volunteer wheat, witchgrass and kochia (add 0.12 pound of dicamba for control). Ensure that the specific atrazine product is registered for application at the desired site.

**15.0 PERENNIAL WEEDS RATE SECTION**

Apply to actively growing perennial weeds.

NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage. Best results are obtained when soil moisture is adequate for active weed growth.

**PERENNIAL WEEDS RATE TABLE**  
(Alphabetically by Species)

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Alfalfa	1-1.5	3-10	1-5%
Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.			
Alligatorweed	3	3-20	1%
For partial control, apply when most of the plants are in bloom. Repeat applications will be required to achieve control.			
Arsene (arsenite)	—	—	1-1.5%
Apply as a spray-to-wet treatment.			
Barnyardgrass	2-3.3	3-20	1-5%
Bentgrass	1	10-20	1-5%

For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results.

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**PERENNIAL WEEDS RATE SECTION 98**

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
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Bermudagrass	2-3.3	3-20	1.5%
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For control, apply 3.3 quarts of this product per acre. For partial control, apply 64 fluid ounces per acre. Treat when Bermudagrass is actively growing and seed-heads are present. Retreatment may be necessary to achieve control.

Bermudagrass water (knobgrass)	0.7-1	5-10	1.5%
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Apply 32 fluid ounces of this product in 5 to 10 gallons of water per acre. Apply when water Bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

Fall applications only: Apply 22 fluid ounces of this product in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water Bermudagrass that is 12 to 18 inches in length.

This product is not registered in California for use on water Bermudagrass.

Bindweed, field	0.4-3.3	3-20	1.5%
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Do not treat field bindweed under drought stress as good soil moisture is necessary for active growth.

For control, apply 2.5 to 3.3 quarts of this product per acre west of the Mississippi River and 2 to 2.5 quarts east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Also for control, apply 44 fluid ounces of this product plus 0.5 pound of dicamba in 10 to 20 gallons of water per acre. Do not apply by air.

For suppression on irrigated agricultural land, apply 22 to 44 fluid ounces of this product plus 1 pound of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

In California only, apply 22 fluid ounces to 3.3 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 22 fluid ounces of this product in 3 to 10 gallons of water per

acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.

Bluegrass, Kentucky	0.7-1.5	3-40	1.5%
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Blauveel, Texas	2-3.3	3-40	1.5%
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Apply 2.5 to 3.3 quarts of this product per acre west of the Mississippi River and 2 to 2.5 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Brickellia	2-3	3-40	1%
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Apply to fully expanded fronds that are at least 18 inches long.

Bromegrass, smooth	0.7-1.5	3-40	1.5%
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Bursage, woolly-leaf	—	3-20	1.5%
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For control, apply 44 fluid ounces of this product plus 0.5 pound of dicamba per acre.

For partial control, apply 22 fluid ounces of this product plus 0.5 pound of dicamba per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

Canarygrass, reed	1.5-2	3-40	1.5%
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Cattail	2-3.3	3-40	1.5%
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Clover, red, white	2-3.3	3-20	1.5%
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Also for control, apply 11 to 22 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.

**PERENNIAL WEEDS RATE SECTION 99**

**PERENNIAL WEEDS RATE SECTION 100**

Weed Species	Rate (OT/A)	Water Volume (GPA)	Hand-Held % Solution
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Cogongrass	2-3.3	10-40	1.5%
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Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to achieve control.

Dallisgrass	2-3.3	3-20	1.5%
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Dandelion	2-3.3	3-40	1.5%
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Also for control, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre.

Dock, curly	2-3.3	3-40	1.5%
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Also for control, apply 11 to 22 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.

Dogbane, hemp	3	3-40	1.5%
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Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall.

For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

Fescue (except tall)	2-3.3	3-20	1.5%
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Fescue, tall	0.7-2	3-40	1.5%
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Apply 64 fluid ounces of this product per acre when most plants have reached boot-to-early seedhead stage of development.

Fall applications only: Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 11 fluid ounces per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.

Guineagrass	1.5-2	3-40	1%
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Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment.

In Texas and ridge of Florida, use 44 fluid ounces for control. In the flatwoods region of Florida, 64 fluid ounces is required for control.

Horsenettle	2-3.3	3-20	1.5%
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Horsenettle	3	3-40	1.5%
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Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Iceplant	---	---	1.5-2%
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Thorough coverage is necessary for best control.

Jerusalem artichoke	2-3.3	3-20	1.5%
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Johnsongrass	0.4-2	3-40	1%
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In annual cropping systems apply 22 to 44 fluid ounces of this product per acre. Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage (no-till) is not practiced, apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using 22 fluid ounces of this product per acre.

For burndown of Johnsongrass, apply 11 fluid ounces of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot treatment (partial control or suppression)—Apply a 0.7-percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.

Kikuyugrass	1.5-2	3-40	1.5%
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Spray when most kikuyugrass is at least 8 inches in height (3- or 4-leaf stage of growth). Allow 3 or more days after application before tillage.

Knapweed	3	3-40	1.5%
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Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Lamium	---	---	1%
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Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

Lespedeza	2-3.3	3-20	1.5%
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**PERENNIAL WEEDS RATE SECTION 101**

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**PERENNIAL WEEDS RATE SECTION 102**

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Meld % Solution
Milkweed, common	2	3-40	1.5%

Apply when most plants have reached the late bud to flower stage of growth.

Muhly, wirestem	0.7-1.5	3-40	1.5%
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Use 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or non-crop areas. Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.

Mullein, common	2-3.3	3-20	1.5%
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Nopgrass?	2-3.3	3-20	1.5%
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Nightshade silverleaf	1.5	3-10	1.5%
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Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.

Nutsedge, purple or yellow	0.4-2	3-40	1-1.5%
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Apply 64 fluid ounces of this product per acre or apply a 1- to 1.5-percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets that have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential applications: 22 to 44 fluid ounces of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3- to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For partial control of existing plants, apply 11 to 44 fluid ounces of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.

Orchardgrass	0.7-1.5	3-40	1.5%
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Orchardgrass sods going to no-till corn: Apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

Pampasgrass	—	—	1-1.5%
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Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

Paragrass?	2-3.3	3-20	1.5%
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Perennials	2-3.3	3-40	1-1.5%
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For partial control and best results, treat during late summer or fall when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to achieve control. Visual control symptoms will be slow to develop.

Poison hemlock	—	—	1-1.5%
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For hand held, apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Thorough coverage is necessary for best control.

Pokeweed, common	1	3-40	1.5%
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Apply to actively growing plants up to 24 inches tall.

Quackgrass	0.7-2	3-40	1.5%
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In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 44 fluid ounces of this product. Do not tank mix with residual herbicides when using the 22-fluid-ounce rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.

**PERENNIAL WEEDS RATE SECTION 103**

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**PERENNIAL WEEDS RATE SECTION 104**

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Mixed % Solution
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In pastures, sods or non-crop areas where deep tillage does not follow application: Apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.

Redvine	0.5-1.5	5-10	1.5%
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For suppression, apply 16 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 44 fluid ounces per acre. Apply recommended rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Red, giant	—	—	1.5%
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Best results are obtained when applications are made in late summer to fall.

Ryegrass, perennial	0.7-2	3-40	1%
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In annual cropping systems apply 22 to 44 fluid ounces of this product per acre. Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage (no-till) is not practiced, apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using 22 fluid ounces of this product per acre.

Smartweed, swamp	2-3.3	3-40	1.5%
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Also for control, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.

Sowthistle, perennial	1.5-2	3-40	1.5%
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

Spruce, leafy	—	3-10	1.5%
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For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.

Starthistle, yellow	1-5	10-40	1.5%
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Best results are obtained when applications are made during the rosette, bolting and early flower stages.

Sweet potato, wild	—	—	1.5%
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For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

Thistle, arctic	—	—	1.5%
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For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

Thistle, Canada	1.5-2	3-40	1.5%
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression in the spring, apply 22 fluid ounces of this product, or 11 fluid ounces of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

Timothy <sup>1</sup>	1.5-2	3-40	1.5%
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Torpedograss	2.5-3.3	3-40	1.5%
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For partial control, apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to achieve control. Fall treatments must be applied before frost.

Trumpet-creeper	1-5	5-10	1.5%
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For partial control, apply in late September or October, to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Vaseygrass <sup>2</sup>	2-3.3	3-20	1.5%
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Velvetgrass <sup>2</sup>	2-3.3	3-20	1.5%
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**PERENNIAL WEEDS RATE SECTION 105**

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**WOODY BRUSH AND TREES 106**

When to apply: Western <sup>1</sup>	1.5-2	3-20	1.5%
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<sup>1</sup> Apply when most plants have reached the early bud stage of growth.<sup>2</sup> Apply when most plants have reached the early heading stage of growth.**16.0 WOODY BRUSH AND TREES RATE SECTION**  
(Alphabetically by Species)

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Unless otherwise directed, apply broadcast treatments in 3 to 40 gallons of water per acre. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

**WOODY BRUSH AND TREES RATE TABLE**  
(Alphabetically by Species)

Weed Species	Rate (QT/A)	Hand-Held, ac <sup>2</sup> % Solution
Alder	2-3	1%
Ash <sup>1</sup>	1.5-3.3	1-1.5%
Aspen, quaking	1.5-2	1%
Bearmat (Bearclover) <sup>1</sup>	1.5-3.3	1-1.5%
Beach <sup>1</sup>	1.5-3.3	1-1.5%

Birch	1.5-2	1%
Blackberry	2-3	1%
Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.1 percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 2 to 2.5 quarts of this product in 30 to 40 gallons of water per acre.		
Blackgum	1.5-3.3	1-1.5%
Bracken	1.5-3.3	1-1.5%
Broom, French, Scotch	—	1-1.5%
Buckwheat, California <sup>1</sup>	—	1-1.5%
Cascara <sup>1</sup>	1.5-3.3	1-1.5%
Catsclaw <sup>1</sup>	—	1%
Ceanothus <sup>1</sup>	1.5-3.3	1-1.5%
Chamisso <sup>2</sup>	—	1%
Cherry, bitter, black, pin	1.5-2	1%
Coyote Brush	—	1-1.5%
Apply when at least 50 percent of the new leaves are fully developed.		
Dogwood <sup>1</sup>	1.5-3.3	1-1.5%
Elderberry	1.5-2	1%
Elm <sup>1</sup>	1.5-3.3	1-1.5%
Eucalyptus	—	1.5%
For control of eucalyptus resprouts, apply when resprouts are 5 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed eucalyptus plants.		
Florida holly (Brazilian Peppertree) <sup>1</sup>	1.5-3.3	1-1.5%
Gorse <sup>1</sup>	1.5-3.3	1-1.5%
Hasardia <sup>1,2</sup>	—	1-1.5%

**WOODY BRUSH AND TREES 107**

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## WOODY BRUSH AND TREES

Rate (O/T/A)  
Hand-held  
% SolutionMandrill  
1.5-2 1%Hazel  
1.5-2 1%Hickory  
1.5-3 1-1.5%Honeysuckle  
2-3 1%Horsearm/ American  
1.5-3 1-1.5%Kudzu  
2.5-3.3 1.5%Locust black  
1.5-3 1-1.5%Madrone resprouts  
— 1.5%

Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments

Maple, red  
1.5-3 1-1.5%Maple, sugar  
— 1%Monkey flower  
— 1-1.5%Oak, black, white  
1.5-3 1-1.5%Oak, post  
2-3 1%Oak, northern  
— 1%Oak, southern Red  
1.5-2 1%Paper, yellow  
1.5-3 1-1.5%

Repeat applications may be required to achieve control.

Apply when at least 50 percent of the new leaves are fully developed.

Apply when at least 50 percent of the new leaves are fully developed.

Apply when at least 50 percent of the new leaves are fully developed.

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Apply when at least 50 percent of the new leaves are fully developed.

## WOODY BRUSH AND TREES

Partial Control  
Through coverage of foliage is necessary for best results.Willow  
2-3 1%Western  
1.5-3 1-1.5%Virginia creeper  
1.5-3 1-1.5%Vine maple  
1.5-3 1-1.5%Turnip creeper  
1.5-2 1%Tobacco, tree  
— 1-1.5%Tumbleberry  
1.5-2 1%Tupelo  
— 1.5%Tulow tree, Chinese  
— 1%Swordfern  
1.5-3 1-1.5%Sweetgum  
1.5-2 1%Sumac, poison  
1.5-3 1-1.5%Sourwood  
1.5-3 1-1.5%Sassafras  
1.5-3 1-1.5%Salicidal  
1.5-3 1-1.5%Salmonberry  
1.5-2 1%California  
— 1%Sage brush  
1.5-3 1-1.5%Sage, white  
1.5-3 1-1.5%Sage, black  
— 1%Russet olive  
1.5-3 1-1.5%Rose, multiflora  
1.5 1%Rose, multiflora  
1.5 1%Rose, multiflora  
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**LIMIT OF WARRANTY 110****17.0 LIMIT OF WARRANTY AND LIABILITY**

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

For over-the-top uses on Roundup Ready crops, crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY

OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

Amplify, Bullet, Degree, Degree Xtra, Harness, IntRRo, Lariat, Lasso, Micro-Tech, Monsanto and Vine symbol, Permit, Roundup, Roundup Ready, and Yukon are trademarks of Monsanto Technology LLC.

All other trademarks are the property of their respective owners.

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EPA Reg. No. 524-539

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ST. LOUIS, MISSOURI 63167 USA

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EPA Reg. No. 524-539

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imagine



MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 660  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

March 31, 2004

Document Processing Center (NOTIF)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room-266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: EPA Reg. No. 524-539  
Notification of Alternate Brand Name  
Protocol II Herbicide

Dear Mr. Tompkins:

On 7-May-2002, the Agency approved glyphosate herbicide EPA Registration Number 524-539. The most recently approved label text is included in the Master Label approved 28-Jan-2004 by the Agency. At this time, Monsanto wishes to notify EPA that a product under this registration will be marketed using the commercial brand name "**Protocol II Herbicide.**" Five Copies of draft labeling for that new product, based on the Jan-2004 approval, are enclosed in support of this Notification.

As a reminder, I note that the brand name "Protocol Herbicide, formerly part of the 524-326 registration, was deleted via Monsanto's letter request dated 21-Jan-2004.

Protocol II Herbicide will include crop and non-crop use sites, encompassing directions for use that will be essentially the same as another brand, Roundup Original MAX Herbicide, which is part of the same registration. A listing of differences between the 28-Jan-2004 stamped label text and the text enclosed herein is attached for your reference.

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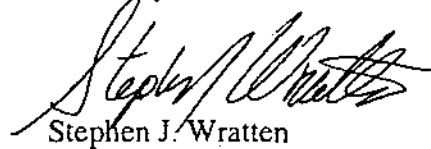
When the final printed labeling is available for Protocol II Herbicide, it will be submitted for your records, including an example of a container label and the referenced aerial supplemental labeling.

*This notification of alternate brand name is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR§ 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product, other than the allowed deletion of specific use sites and formatting changes in the attached list. I understand that it is a violation of 18 USC Sec. 1001 to willfully make any false statements to the EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement actions and penalties under sections 12 and 14 of FIFRA.*

It is Monsanto's understanding that the recently enacted legislation PIRA did not establish a requirement for payment of any fee linked to a new brand name Notification, and none is therefore proposed.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider (202-783-2866) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

cc: R. P. Schneider

Protocol II Notif.doc

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**Protocol II (524-539) Herbicide: Differences between the 28-Jan-2004 approved and draft-print label text:**

1. The label is constructed principally from Part I of the 28-Jan-2004 stamped Master Label. Most text associated with Parts II, III, and IV is not printed.
2. Several of the marketing statements on page 2 of the stamped text were not printed.
3. The statement "Supplemental Labeling may be found on the cdms.net or greenbook.net websites ..." page 2 of the stamped text was not printed, since this new brand labeling is not available at those sites at this time.
4. The statement "It is a violation of Federal law to use this product..." appearing on page 2 of the stamped text was duplicated later in the text, and was only printed once at the beginning of the Directions for Use section (page 8 of this submitted text) according to EPA's normal labeling requirements.
5. Container-specific labeling statements pertaining to refillable / non-refillable containers (page 2 of stamped text) and container disposal instructions (page 7 of stamped text) were removed, as they will appear on the appropriate container labels.
6. Section 13 (pages 78 – 90 of this submitted text) pertaining to Industrial, Turf, and Ornamental uses was created from the approved text that appeared in Part III.8.0 – III.8.9 (pages 87 – 94 of the stamped text). The subsection III.8.2 pertaining to Forestry Site Preparation was not included. Minor changes were made in formatting so that the cross-references and general appearance of Section 13 would be consistent with the rest of the booklet.
7. In the approved text, Part III.5.0 included two optional statements about surfactant addition. Option A was not included and Option B was included. (page 10 of the submitted text)
8. On 21-Jan-2004, Monsanto notified EPA that we would utilize weed resistance management language on brands under EPA Reg. No. 524-539. That text was identical to text previously approved on EPA Reg. No. 524-537, and has been incorporated into this label on page 12 of the submitted text, verbatim. Also, the graphic symbol indicating that Protocol II Herbicide is a Group 9 Herbicide is included on the booklet cover, at the bottom.
9. In Section 10.3 and 10.4 (pages 59 and 62 of the submitted text) the approved cross reference text "Cereal Crops" was changed to "Cereal and Grain Crops" to match with the title of Section 8.1 to which it refers.
10. The use instruction for Roundup Ready Sugar Beets (III.11.5 of stamped text) was not included, and the cross-reference to this use direction in Section 8.11 was deleted.
11. The use site "raspberry, (black, red)" in Section 9.1 LABELED CROPS was not included.
12. In the approved text Part III. 10.3 (page 33 of stamped text), under the sub-header "Over-the-Top Wiper Applications", the end of the PRECAUTIONS, RESTRICTIONS paragraph was inadvertently omitted. The words that have appeared in previous 524-539 labeling "damage or destruction." Were inserted to correct this error.

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13. Competitor's listing of products changed to Monsanto trademark attorneys have determined that it is no longer necessary to individually name trademark ownership for companies other than Monsanto. For that reason, the listing of brands that appeared on page 59 of the stamped text has been replaced with "All other trademarks are the property of their respective owners." As shown on page 111 of the submitted text.

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MONSANTO



MONSANTO COMPANY  
1300 I (EYE) STREET, NW  
SUITE 450 EAST  
WASHINGTON, D.C. 20005  
PHONE (202) 383-2866  
FAX (202) 789-1748  
<http://www.monsanto.com>

July 1, 2004

**Hand Delivered**

Document Processing Center (NOTIF)  
Office of Pesticide Programs (7504C)  
U.S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: **Roundup OriginalMAX Herbicide (EPA Reg. No. 524-539)**  
Submission of Final Printed Labeling

Dear Mr. Tompkins:

Monsanto is submitting by notification, three (3) copies the final printed labels for Roundup OriginalMAX Herbicide (EPA Reg. No. 524-539; Print Plate No. 63008C3-1/53). This label is based on the Master Label for EPA Reg. No. 524-539 approved by the Agency on January 28, 2004.

The following summarizes significant differences from the previous printed version of this label:

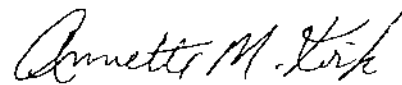
- Alternate Surfactant statement B., "Although no generally required, surfactants or additives..." as found in section 5.0 of the Master Label, has been included in section 5.0 General Information
- The Group 9 Herbicide box has been added to the front of the label and the corresponding text, "Information on Weed Resistance" has been included in section 5.0 General Information. This language was first approved by the Agency as supplemental labeling on Roundup WeatherMAX herbicide (EPA Reg. No. 524-537) on October 30, 2003 and was subsequently Notified to the Agency in a letter dated January 21, 2004 for use on labeling for Reg. No. 524-539.
- As with the previous printed booklet, we have elected not to print the use instructions for Roundup Ready sugar beets.
- We have included in section 11.3 Cotton – Roundup Ready, the preplant, preemergence, selective equipment (hooded sprayers) and preharvest uses only for this printing. Other use instructions for Roundup Ready cotton, including over-

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the-top and selective equipment applications using direct sprays, are printed on separate supplemental labeling that was Notified to the Agency in a letter dated May 18, 2004.

If you have any questions regarding this submission feel free to contact me through Dr. Russell Schneider at 202-383-2866 or directly at 314-694-8890.

Sincerely,



Annette M. Kirk  
Registration Manager

cc: R. Schneider  
J. Lambert

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

294196

## Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original MAX Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 1300 I Street, N.W., Suite 450 East Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 1/28/2004
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Print Plate No. 63008C3-1/53

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Director, Regulatory Affairs	
		Telephone No. (Include Area Code) (202) 383-2866	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped) 
2. Signature 		3. Title Registration Manager	
4. Typed Name Annette M. Kirk		5. Date 7/1/2004	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling:** Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on x 11 inch paper for submission.

**Submission of Data:** Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A - Check the appropriate action for which you are submitting this form.**

**SECTION I -** This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II -** This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registrations or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-toe", reregistration, etc.

- 1-5. Self-explanatory.
3. EPA Use Only.

MONSANTO



MONSANTO COMPANY  
1700 I (EYE) STREET, NW  
SUITE 450 EAST  
WASHINGTON, D.C. 20005  
PHONE (202) 383-2866  
FAX (202) 789-1748  
<http://www.monsanto.com>

June 29, 2004

Office of Pesticide Programs (7504C)  
Document Processing Center (NOTIF)  
U.S. Environmental Protection Agency  
Crystal Mall #2, Room 266A  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: RT Master II Herbicide (EPA Reg. No. 524-539)  
Submission of final printed supplemental label for  
Preharvest and Spot-Treatments of Weeds in Dry Beans

Dear Mr. Tompkins,

Monsanto is submitting for your files, three (3) copies of the final printed supplemental labels for RT Master II Herbicide (EPA Reg. No. 524-539, Print Plate No. 63009C1-16) for the above use. The EPA approved text for this label under (524-539) on May 20, 2004.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-9036.

Sincerely,

Debra Hinton  
Registration Specialist

cc: R. Schneider  
S. Wratten

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier  
Number  
265195

### Application for Pesticide – Section I

1. Company/Product Number Monsanto Co./ EPA Registration No. 524-539		2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) RT Master II Herbicide		PM # 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 1300 I Street, N.W., Suite 450 East Washington, DC 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

### Section – II

<input type="checkbox"/> Amendment – Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated <u>5/20/2004</u>
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification – Explain below.	<input type="checkbox"/> Other – Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Final printed supplemental label - Print Plate No. 63009C1-16

### Section – III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per Container	If "Yes" Package wgt. No. per Container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Other _____ <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled					

### Section – IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Russell P. Schneider		Title Director, Regulatory Affairs		Telephone No. (Include Area Code) (202) 383-2866	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					6. Date Application Received (Stamped) 
2. Signature 		3. Title Registration Specialist			
4. Typed Name Debra Hinton		5. Date 6/24/2004			

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR RT MASTER® II HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using RT Master II herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.



EPA Reg. No. 524-539

RT Master is a registered trademark of Monsanto Technology LLC.

### PREHARVEST AND SPOT-TREATMENTS OF WEEDS IN DRY BEANS

Keep out of reach of children.

#### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for RT Master II herbicide for essential product performance information.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for RT Master II herbicide for essential product performance information.

#### DIRECTIONS FOR USE

See the "APPLICATION EQUIPMENT AND TECHNIQUES" Section of the RT Master II herbicide label booklet for more information.

To minimize drift, use nozzles that emit medium to large-sized droplets. The likelihood of drift occurring from the use of this

product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing, or when there are other meteorological conditions that favor spray drift. Extreme care must be used when applying this product to avoid injury to desirable plants and crops.

#### BROADCAST SPRAY

**USE INSTRUCTIONS:** This product may be applied as an over-the-top broadcast spray to control labeled weeds prior to the harvest of dry beans. Apply up to 22 fluid ounces in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30 percent grain moisture or less). Either ground broadcast or aerial applications may be made.

#### PRECAUTIONS, RESTRICTIONS:

- Apply at least 7 days before harvest.
- Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the RT Master II herbicide label.
- Preharvest application is not recommended for dry beans grown for seed, as a reduction in germination or vigor may occur.
- Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system.



- Do not treat cowpeas, since this crop is considered to be grown as livestock feed.

#### **SPOT TREATMENTS**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in dry beans. Apply up to 22 fluid ounces in 10 to 20 gallons of water through ground spray equipment or use a 2 percent solution in a hand-held sprayer. For best results, applications should be made at or beyond the bud stage of growth. The crop receiving spray in treated areas will be killed.

#### **PRECAUTIONS, RESTRICTIONS:**

- Apply at least 7 days before harvest.
- Only one application per year may be made; do not combine spot treatments with a preharvest broadcast spray on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the RT Master II herbicide label.
- Do not feed treated vines and hay from these crops to livestock.
- Do not treat cowpeas, since this crop is considered to be grown as livestock feed.

Read the "Limit of Warranty and Liability" in the label booklet for RT Master II herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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ST. LOUIS, MISSOURI 63167

5/20/2004

63009C1-16

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR RT MASTER® II HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using RT Master II herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.



EPA Reg. No. 524-539

RT Master is a registered trademark of Monsanto Technology LLC.

### PREHARVEST AND SPOT-TREATMENTS OF WEEDS IN DRY BEANS

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It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for RT Master II herbicide for essential product performance information.

#### DIRECTIONS FOR USE

See the "APPLICATION EQUIPMENT AND TECHNIQUES" Section of the RT Master II herbicide label booklet for more information.

To minimize drift, use nozzles that emit medium to large-sized droplets. The likelihood of drift occurring from the use of this

product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing, or when there are other meteorological conditions that favor spray drift. Extreme care must be used when applying this product to avoid injury to desirable plants and crops.

#### BROADCAST SPRAY

**USE INSTRUCTIONS:** This product may be applied as an over-the-top broadcast spray to control labeled weeds prior to the harvest of dry beans. Apply up to 22 fluid ounces in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30 percent grain moisture or less). Either ground broadcast or aerial applications may be made.

#### PRECAUTIONS, RESTRICTIONS:

- Apply at least 7 days before harvest.
- Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the RT Master II herbicide label.
- Preharvest application is not recommended for dry beans grown for seed, as a reduction in germination or vigor may occur.
- Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system.

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- Do not treat cowpeas, since this crop is considered to be grown as livestock feed.

### SPOT TREATMENTS

**USE INSTRUCTIONS:** This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in dry beans. Apply up to 22 fluid ounces in 10 to 20 gallons of water through ground spray equipment or use a 2 percent solution in a hand-held sprayer. For best results, applications should be made at or beyond the bud stage of growth. The crop receiving spray in treated areas will be killed.

### PRECAUTIONS, RESTRICTIONS:

- Apply at least 7 days before harvest.
- Only one application per year may be made; do not combine spot treatments with a preharvest broadcast spray on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the RT Master II herbicide label.
- Do not feed treated vines and hay from these crops to livestock.
- Do not treat cowpeas, since this crop is considered to be grown as livestock feed.

Read the "Limit of Warranty and Liability" in the label booklet for RT Master II herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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ST. LOUIS, MISSOURI 63167

5/20/2004

63009C1-16

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR RT MASTER® II HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using RT Master II herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.



EPA Reg. No. 524-539

RT Master is a registered trademark of Monsanto Technology LLC.

### PREHARVEST AND SPOT-TREATMENTS OF WEEDS IN DRY BEANS

Keep out of reach of children.

#### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for RT Master II herbicide for essential product performance information.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for RT Master II herbicide for essential product performance information.

#### DIRECTIONS FOR USE

See the "APPLICATION EQUIPMENT AND TECHNIQUES" Section of the RT Master II herbicide label booklet for more information.

To minimize drift, use nozzles that emit medium to large-sized droplets. The likelihood of drift occurring from the use of this

product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing, or when there are other meteorological conditions that favor spray drift. Extreme care must be used when applying this product to avoid injury to desirable plants and crops.

#### BROADCAST SPRAY

**USE INSTRUCTIONS:** This product may be applied as an over-the-top broadcast spray to control labeled weeds prior to the harvest of dry beans. Apply up to 22 fluid ounces in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30 percent grain moisture or less). Either ground broadcast or aerial applications may be made.

#### PRECAUTIONS, RESTRICTIONS:

- Apply at least 7 days before harvest.
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- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the RT Master II herbicide label.
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- Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system.

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- Do not treat cowpeas, since this crop is considered to be grown as livestock feed.

#### SPOT TREATMENTS

**USE INSTRUCTIONS:** This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in dry beans. Apply up to 22 fluid ounces in 10 to 20 gallons of water through ground spray equipment or use a 2 percent solution in a hand-held sprayer. For best results, applications should be made at or beyond the bud stage of growth. The crop receiving spray in treated areas will be killed.

#### PRECAUTIONS, RESTRICTIONS:

- Apply at least 7 days before harvest.
- Only one application per year may be made; do not combine spot treatments with a preharvest broadcast spray on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the RT Master II herbicide label.
- Do not feed treated vines and hay from these crops to livestock.
- Do not treat cowpeas, since this crop is considered to be grown as livestock feed.

Read the "Limit of Warranty and Liability" in the label booklet for RT Master II herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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ST. LOUIS, MISSOURI 63167

5/20/2004

63009C1-16

134

MONSANTO



MONSANTO COMPANY  
1300 I (EYE) STREET, NW  
SUITE 450 EAST  
WASHINGTON, D.C. 20005  
PHONE (202) 383-2866  
FAX (202) 789-1748  
<http://www.monsanto.com>

June 29, 2004

Office of Pesticide Programs (7504C)  
Document Processing Center (NOTIF)  
U.S. Environmental Protection Agency  
Crystal Mall #2, Room 266A  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

**Subject: Roundup Original MAX Herbicide (EPA Reg. No. 524-539)  
Submission of final printed supplemental label for  
Cotton with the Roundup Ready Gene for Applications in the State of Arizona Only**

Dear Mr. Tompkins,

Monsanto is submitting for your files, three (3) copies of the final printed supplemental labels for Roundup Original MAX Herbicide (EPA Reg. No. 524-539, Print Plate No. 63008C1-24) for the above use. The EPA approved this label on May 20, 2004.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-9036.

Sincerely,

Debra Hinton  
Registration Specialist

cc: R. Schneider  
S. Wratten

135



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier  
Number  
265185

### Application for Pesticide - Section I

1. Company/Product Number Monsanto Co./ EPA Registration No. 524-539		2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original MAX Herbicide		PM # 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 1300 I Street, N.W., Suite 450 East Washington, DC 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 5/20/2004
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Final printed supplemental label - Print Plate No. 63008C1-24

### Section - III

1. Material This Product Will Be Packaged in:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt.      No. per Container	If "Yes" Package wgt.      No. per Container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Director, Regulatory Affairs	
		Telephone No. (include Area Code) (202) 383-2866	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)  
2. Signature 		3. Title Registration Specialist	
4. Typed Name Debra Hinton		5. Date 6/29/2004	

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL® MAX HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup Original MAX herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.



EPA Reg. No. 524-539

Roundup Original and Roundup Ready are registered trademarks of Monsanto Technology LLC.

FOR COTTON WITH THE ROUNDUP READY® GENE  
FOR APPLICATIONS IN THE STATE OF ARIZONA ONLY

Keep out of reach of children.

### CAUTION!

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

#### General Information

**ATTENTION:** MONSANTO RECOMMENDS THIS PRODUCT FOR USE ONLY OVER-THE-TOP OF OR DIRECTED ONTO IMPROVED COTTON VARIETIES THAT ARE DESIGNATED AS COTTON WITH THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH OF COTTON WILL RESULT IF ANY COTTON VARIETIES NOT PROPERLY DESIGNATED AS HAVING THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT. AVOID CONTACT OF HERBICIDE WITH

FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, OR ANY DESIRABLE PLANTS AND TREES, OTHER THAN CROPS WITH THE ROUNDUP READY GENE, SINCE SEVERE INJURY OR DESTRUCTION WILL RESULT.

ROUNDUP READY COTTON VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION, "ROUNDUP READY", INDICATES THE COTTON VARIETY CONTAINS A PATENTED PROPRIETARY TRAIT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX herbicide for essential product performance information.

TYPES OF APPLICATIONS: Preplant, At-Planting, Preemergence, Over-the-top, Selective Equipment, Preharvest

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**Maximum Allowable Combined Application  
Quantities Per Season**

Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total in-crop applications from ground cracking to layby <ul style="list-style-type: none"> <li>Total in-crop over-the-top from ground cracking to 4-leaf stage</li> <li>Total in-crop applications using selective equipment through layby</li> </ul>	2.5 quarts per acre 2.0 quarts per acre 1.3 quarts per acre
Maximum preharvest application rate	44 fluid ounces per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of the Roundup Original MAX herbicide label booklet for general precautionary instructions for use in Roundup Ready crops. Do NOT combine these instructions with other recommendations made for crop varieties that do not contain the Roundup Ready gene, in the "ANNUAL AND PERENNIAL CROPS (Alphabetical)" section of the Roundup Original MAX herbicide label booklet. The combined total application of this product from cotton emergence until harvest must not exceed 4 quarts per acre.

NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-LEAF (NODE) STAGE OF DEVELOPMENT.

NO MORE THAN TWO POST-DIRECTED APPLICATIONS SHOULD BE MADE FROM THE 5-LEAF STAGE THROUGH LAYBY.

SEQUENTIAL IN-CROP OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS.

ALLOW A MINIMUM OF 7 DAYS BETWEEN APPLICATION AND HARVEST. APPLICATIONS MADE IN EXCESS OF MAXIMUM LABEL RATES ARE EXPECTED TO RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS AND ARE THE SOLE RESPONSIBILITY OF THE GROWER.

THE MAXIMUM USE RATES STATED THROUGHOUT THIS PRODUCT'S LABELING APPLY TO THIS PRODUCT COMBINED WITH THE USE OF ALL OTHER HERBICIDES CONTAINING GLYPHOSATE OR SULFOSATE AS THE ACTIVE INGREDIENT, WHETHER APPLIED AS MIXTURES OR SEPARATELY. CALCULATE THE APPLICATION RATES AND ENSURE THAT THE TOTAL USE OF THIS AND OTHER GLYPHOSATE OR SULFOSATE CONTAINING PRODUCTS DOES NOT EXCEED STATED MAXIMUM USE RATE.

**Preplant, At-Planting, and Preemergence:**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton.

**Over-the-Top:**

**USE INSTRUCTIONS:** This product may be applied by aerial or ground application equipment at rates up to 22 fluid ounces per acre per application postemergence to Roundup Ready cotton from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Unless otherwise directed in this supplemental label, any single over-the-top broadcast application should not exceed 22 fluid ounces per acre. Combined over-the-top applications between ground cracking until the 4-leaf (node) stage should not exceed 2.0 quarts per acre.

**NOTE:** For specific rates of application and instructions, refer to the "ANNUAL" and "PERENNIAL WEEDS RATE TABLES" in the label booklet for Roundup Original MAX herbicide.

**Selective Equipment:**

**USE INSTRUCTIONS:** This product may be applied in-crop using precision post-directed or hooded sprayers to Roundup Ready cotton through layby. Unless otherwise directed in this supplemental label, any single application using selective equipment should not exceed 22 fluid ounces per acre. Sequential in-crop applications using selective equipment may be made up to a maximum of 1.3 quarts per acre.

At this stage, post-directed equipment should be used which directs the spray to the base of the cotton plants. Contact of the spray with cotton leaves should be avoided to the maximum extent possible. To minimize spray onto the leaves of the cotton plants, place nozzles in a low position directing a horizontal spray pattern under the cotton leaves to contact weeds in the row, and maintain low spray pressure (less than 30 psi). For best results, make applications while weeds are small (less than 3 inches).

**PRECAUTIONS, RESTRICTIONS:** See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the Roundup Original MAX herbicide label booklet for information on proper use and calibration of this equipment. The combined total of in-crop over-the-top plus selective equipment applications must not exceed 2.6 quarts per acre.

**Salvage Treatment:**

**USE INSTRUCTIONS:** From the ground-cracking stage through layby, where weeds threaten to cause the loss of the crop, applications of up to 32 fluid ounces per acre may be applied either as an over-the-top application or as a post-directed treatment sprayed higher on the cotton plants and over the weeds. **NOTE:** CROP TOLERANCE OF ROUNDUP READY COTTON HAS NOT BEEN FULLY TESTED AT THIS APPLICATION RATE. SALVAGE TREATMENTS ARE EXPECTED TO RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS AND ARE THE SOLE RESPONSIBILITY OF THE GROWER. NO MORE THAN TWO SALVAGE TREATMENTS SHOULD BE USED PER GROWING SEASON.

**PRECAUTIONS, RESTRICTIONS:** The combined total of in-crop over-the-top plus selective equipment applications must not exceed 2.6 quarts per acre.

**Preharvest:**

**USE INSTRUCTIONS:** This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20 percent boll crack.

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Up to 1.3 quarts per acre of this product may be applied using either aerial or ground spray equipment. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Do not apply Roundup Original MAX herbicide preharvest to Roundup Ready cotton grown for seed.

**ATTENTION: USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON, HOWEVER, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.**

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Original MAX herbicide before using. For over-the-top uses on Roundup Ready crop varieties crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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ST. LOUIS, MISSOURI 63167

05/20/2004

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MONSANTO



MONSANTO COMPANY  
1300 I (EYE) STREET, NW  
SUITE 450 EAST  
WASHINGTON, D.C. 20005  
PHONE (202) 383-2866  
FAX (202) 789-1748  
<http://www.monsanto.com>

June 29, 2004

Office of Pesticide Programs (7504C)  
Document Processing Center (NOTIF)  
U.S. Environmental Protection Agency  
Crystal Mall #2, Room 266A  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup Original MAX Herbicide (EPA Reg. No. 524-539)  
Submission of final printed supplemental label  
For weed control in vegetable crops and miscellaneous Crops

Dear Mr. Tompkins,

Monsanto is submitting for your files, three (3) copies of the final printed supplemental labels for Roundup Original MAX Herbicide (EPA Reg. No. 524-539, Print Plate No. 63008C1-25) for the above use. The EPA approved this label on May 20, 2004.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-9036.



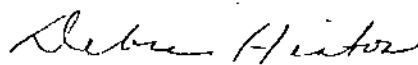
Sincerely,

Debra Hinton  
Registration Specialist

cc: R. Schneider  
S. Wratten

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 <div style="display: inline-block; text-align: center;">             United States  <b>Environmental Protection Agency</b>              Washington, DC 20460           </div>		<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number  <b>265186</b>
<b>Application for Pesticide – Section I</b>			
1. Company/Product Number Monsanto Co. / EPA Registration No. 524-539		2. EPA Product Manager Mr. James Tompkins	
4. Company/Product (Name) Roundup Original MAX Herbicide		PM # 25	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 1300 I Street, N.W., Suite 450 East Washington, DC 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	
<b>Section – II</b>			
<input type="checkbox"/> Amendment – Explain below. <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input type="checkbox"/> Notification – Explain below.		<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 5/20/2004 <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other – Explain below.	
Explanation: Use additional page(s) if necessary. (For section I and Section II.)			
Final printed supplemental label - Print Plate No. 63008C1-25			
<b>Section – III</b>			
1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No * Certification must be submitted	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes" Unit Packaging wgt.    No. per Container	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes" Package wgt.    No. per Container	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container	
		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Other _____ <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			
<b>Section – IV</b>			
1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application)			
Name Dr. Russell P. Schneider		Title Director, Regulatory Affairs	Telephone No. (Include Area Code) (202) 383-2866
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped) 
2. Signature 		3. Title Registration Specialist	
4. Typed Name Debra Hinton		5. Date 6/29/2004	

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL® MAX BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup Original MAX as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.



EPA Reg. No. 524-539

Roundup Original and Roundup Ready are registered trademarks of Monsanto Technology LLC.

### ROUNDUP ORIGINAL MAX FOR WEED CONTROL IN VEGETABLE CROPS AND MISCELLANEOUS CROPS

Keep out of reach of children.

## CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS); DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX for essential product performance information.

#### 1 Vegetable Crops

NOTE: THIS "VEGETABLE CROPS" SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED VEGETABLE CROPS WITHIN THE SECTIONS GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

TYPES OF APPLICATIONS: Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, Prior to Transplanting Vegetables, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, Post-Harvest, Directed Applications (Non-Bearing Ginseng), Over-the-Top Wiper Applications (Rutabagas Only).

PRECAUTIONS, RESTRICTIONS: When applying this product prior to transplanting or direct-seeding crops into

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plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to insure that the wash water flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for additional information.

#### 1.1 Brassica Vegetables

**LABELED CROPS:** Broccoli, Chinese broccoli (gai lan), Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens.

#### 1.2 Bulb Vegetables

**LABELED CROPS:** Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot

#### 1.3 Cucurbit Vegetables and Fruits

**LABELED CROPS:** Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucuzza, hechima, Chinese okra), Melons (all), *Momordica spp* (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon.

**PRECAUTIONS, RESTRICTIONS:** For Cantaloupe, Casaba melon, Crenshaw melon, Cucumber, Gherkin, Gourds, Honeydew melon, Honey ball melon, Mango

melon, Melons (all), Muskmelon, Persian melon, Pumpkin, Squash (summer, winter), and Watermelon, allow at least 3 days between application and planting.

#### 1.4 Leafy Vegetables

**LABELED CROPS:** Amaranth (Chinese spinach), Arugula (rocket), Beet greens, Cardoon, Celery, Chinese celery, Celtuce, Chaya, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Dokudami, Endive (escarole), Florence fennel, Gow kee, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Swiss chard, Watercress (upland), Water spinach.

**PRECAUTIONS, RESTRICTIONS:** For Watercress, avoid applications within 3 days prior to seeding and during the period between seeding and emergence to minimize the risk of injury.

#### 1.5 Fruiting Vegetables

**LABELED CROPS:** Eggplant, Groundcherry (*Physalis spp.*), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato.

**PRECAUTIONS, RESTRICTIONS:** For Eggplant, Ground cherry, Pepper (all), and Tomatillo, allow at least 3 days between application and planting. For tomato and tomatillo, do not make hooded or shielded sprayer applications in row middles because of the potential for crop injury.

#### 1.6 Legume Vegetables (Succulent or Dried)

**LABELED CROPS:** Bean (*Lupinus*: includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus*: includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (*Vigna*: includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (*Pisum*: includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean.

#### 1.7 Root and Tuber Vegetables

**LABELED CROPS:** Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Beet (garden), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Galangal, Ginger, Ginseng, Horseradish, Leren, Kava (turnip-rooted), Parsley (turnip rooted), Parsnip, Potato, Radish, Oriental radish, Rutabaga, Salsify, Black salsify, Spanish salsify, Skirret, Sweet

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potato, Tanier, Turmeric, Turnip, Wasabi, Yacon, Yam bean, True yam.

### **Directed Applications (Non-Bearing Ginseng Only)**

**USE INSTRUCTIONS:** This product may be used for general weed control in established non-bearing ginseng. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, and orchard guns or with wiper application equipment.

**PRECAUTIONS, RESTRICTIONS:** Direct applications so that there is no contact of this product with the ginseng plant. Applications must be made at least one year prior to harvest.

### **Over-the-Top Wiper Applications (Rutabagas Only)**

**USE INSTRUCTIONS:** Wiper applicators may be used over-the-top of rutabagas.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 14 days between application and harvest of rutabagas.

## **2. Miscellaneous Crops**

**LABELED CROPS:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: General Weed Control, Site Preparation, Spot Treatment (Asparagus), Post-Harvest (Asparagus).

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for additional information.

### **General Weed Control, Site Preparation**

**USE INSTRUCTIONS:** This product may be applied for general weed control or for site preparation prior to planting or transplanting crops listed in this section.

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch

application of water, either by natural rainfall or via a sprinkler system. Care should be taken to insure that the wash water flushes off the plastic mulch and does not enter transplant holes. Allow at least 21 days between residue removal and transplanting. Applications made at emergence will result in injury or death to emerged seedlings.

Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application.

### **Spot Treatment (Asparagus)**

**USE INSTRUCTIONS:** This product may be applied immediately after cutting, but prior to the emergence of new spears.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

### **Post-Harvest (Asparagus)**

**USE INSTRUCTIONS:** This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

**PRECAUTIONS, RESTRICTIONS:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence post-harvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

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Read the "Limit of Warranty and Liability" in the label booklet for Roundup Original MAX before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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ST. LOUIS, MISSOURI 63167 USA

05/20/2004

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL® MAX BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup Original MAX as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.



EPA Reg. No. 524-539

Roundup Original and Roundup Ready are registered trademarks of Monsanto Technology LLC.

### ROUNDUP ORIGINAL MAX FOR WEED CONTROL IN VEGETABLE CROPS AND MISCELLANEOUS CROPS

Keep out of reach of children.

## CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS). DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX for essential product performance information.

#### 1 Vegetable Crops

**NOTE:** THIS "VEGETABLE CROPS" SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED VEGETABLE CROPS WITHIN THE SECTIONS GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, Prior to Transplanting Vegetables, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, Post-Harvest, Directed Applications (Non-Bearing Ginseng), Over-the-Top Wiper Applications (Rutabagas Only).

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into

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plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to insure that the wash water flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for additional information.

### 1.1 Brassica Vegetables

**LABELED CROPS:** Broccoli, Chinese broccoli (gai lan), Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens.

### 1.2 Bulb Vegetables

**LABELED CROPS:** Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot

### 1.3 Cucurbit Vegetables and Fruits

**LABELED CROPS:** Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucurbita, hechima, Chinese okra), Melons (all), *Momordica* spp (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon.

**PRECAUTIONS, RESTRICTIONS:** For Cantaloupe, Casaba melon, Crenshaw melon, Cucumber, Gherkin, Gourds, Honeydew melon, Honey ball melon, Mango

melon, Melons (all), Muskmelon, Persian melon, Pumpkin, Squash (summer, winter), and Watermelon, allow at least 3 days between application and planting.

### 1.4 Leafy Vegetables

**LABELED CROPS:** Amaranth (Chinese spinach), Arugula (rocket), Beet greens, Cardoon, Celery, Chinese celery, Celtuce, Chaya, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Dokudami, Endive (escarole), Florence fennel, Gow kee, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Swiss chard, Watercress (upland), Water spinach.

**PRECAUTIONS, RESTRICTIONS:** For Watercress, avoid applications within 3 days prior to seeding and during the period between seeding and emergence to minimize the risk of injury.

### 1.5 Fruiting Vegetables

**LABELED CROPS:** Eggplant, Groundcherry (*Physalis* spp), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato.

**PRECAUTIONS, RESTRICTIONS:** For Eggplant, Ground cherry, Pepper (all), and Tomatillo, allow at least 3 days between application and planting. For tomato and tomatillo, do not make hooded or shielded sprayer applications in row middles because of the potential for crop injury.

### 1.6 Legume Vegetables (Succulent or Dried)

**LABELED CROPS:** Bean (*Lupinus*: includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus*: includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (*Vigna*: includes adzuki bean, asparagus bean, blackeye pea, caljang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (*Pisum*: includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean.

### 1.7 Root and Tuber Vegetables

**LABELED CROPS:** Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Beet (garden), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Galangal, Ginger, Ginseng, Horseradish, Leren, Kava (turnip-rooted), Parsley (turnip rooted), Parsnip, Potato, Radish, Oriental radish, Rutabaga, Salsify, Black salsify, Spanish salsify, Skirret, Sweet

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potato, Tanier, Turmeric, Turnip, Wasabi, Yacon, Yam bean, True yam.

### **Directed Applications (Non-Bearing Ginseng Only)**

**USE INSTRUCTIONS:** This product may be used for general weed control in established non-bearing ginseng. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, and orchard guns or with wiper application equipment.

**PRECAUTIONS, RESTRICTIONS:** Direct applications so that there is no contact of this product with the ginseng plant. Applications must be made at least one year prior to harvest.

### **Over-the-Top Wiper Applications (Rutabagas Only)**

**USE INSTRUCTIONS:** Wiper applicators may be used over-the-top of rutabagas.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 14 days between application and harvest of rutabagas.

## **2. Miscellaneous Crops**

**LABELED CROPS:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: General Weed Control, Site Preparation, Spot Treatment (Asparagus), Post-Harvest (Asparagus).

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for additional information.

### **General Weed Control, Site Preparation**

**USE INSTRUCTIONS:** This product may be applied for general weed control or for site preparation prior to planting or transplanting crops listed in this section.

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch

application of water, either by natural rainfall or via a sprinkler system. Care should be taken to insure that the wash water flushes off the plastic mulch and does not enter transplant holes. Allow at least 21 days between residue removal and transplanting. Applications made at emergence will result in injury or death to emerged seedlings.

Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application.

### **Spot Treatment (Asparagus)**

**USE INSTRUCTIONS:** This product may be applied immediately after cutting, but prior to the emergence of new spears.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

### **Post-Harvest (Asparagus)**

**USE INSTRUCTIONS:** This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

**PRECAUTIONS, RESTRICTIONS:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence post-harvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

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Read the "Limit of Warranty and Liability" in the label booklet for Roundup Original MAX before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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ST. LOUIS, MISSOURI 63167 USA

05/20/2004

63008C1-25



63008C3-1/53



(91)063008043153

### Complete Directions for Use

EPA Reg. No. 524-539

2004-1

GROUP	9	HERBICIDE
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63008C3-1/53



Selective broad-spectrum weed control in Roundup Ready® crops. Non-selective, broad-spectrum weed control for many agricultural systems.

### Complete Directions for Use

EPA Reg. No. 524-539

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS). DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.



## CONTENTS 2

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read the entire label before using this product.

Use only according to label instructions.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

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## 1.0 INGREDIENTS

### ACTIVE INGREDIENT

\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its potassium salt..... 48.7%

OTHER INGREDIENTS:..... 51.3%  
100.0%

\*Contains 660 grams per liter or 5.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its potassium salt. Equivalent to 540 grams per liter or 4.5 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patents Nos. 6,365,551 and RE 37,866. Other patents pending. No license granted under any non-U.S. patent(s).

## 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE,

1-800-332-3111.

2. IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT,

(314)-694-4000.

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## PRECAUTIONARY STATEMENTS 6

### 3.0 PRECAUTIONARY STATEMENTS

#### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

#### CAUTION!

CAUSES MODERATE EYE IRRITATION.

Avoid contact with eyes, skin, or clothing.

FIRST AID:	Call a poison control center or doctor for treatment advice.
IF IN EYES	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses if present after the first 5 minutes then continue rinsing eye.</li></ul>
IF ON SKIN	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li></ul>
<ul style="list-style-type: none"><li>• Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</li><li>• You may also contact (314) 694-4000, collect day or night, for emergency medical treatment information.</li><li>• This product is identified as Roundup Original® MAX herbicide, EPA Registration No. 524-539.</li></ul>	

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

#### Personal Protective Equipment (PPE)

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear: long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

#### User Safety Recommendations:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### 3.2 Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

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## PRECAUTIONARY STATEMENTS 8

### 3.3 Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling. Supplemental Labeling may be found on the [cdms.net](http://cdms.net) or [greenbook.net](http://greenbook.net) websites or obtained by contacting your Authorized Monsanto Retailer or Monsanto Company Representative.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

#### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear: coveralls, shoes plus socks, and chemical-resistant gloves made of any waterproof material.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried.

### 4.0 STORAGE AND DISPOSAL

**PESTICIDE STORAGE:** Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

See container label for alternate PESTICIDE DISPOSAL instructions.

### 5.0 GENERAL INFORMATION (How this product works)

**Product Description:** This product is a postemergent, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody

## STORAGE AND DISPOSAL 9

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## GENERAL INFORMATION 10

brush and trees. It is formulated as a water-soluble liquid. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label instructions.

Do not add buffering agents or pH adjusting agents to the spray solution when Roundup Original MAX herbicide is the only pesticide used unless otherwise directed. See the "MIXING" section of this label for instructions regarding other additives.

Although not generally required, surfactants or additives containing surfactants may be added to this product. Refer to the "Mixing" section of this label for additional information.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" for recommendations for specific weeds.

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Reduced weed control may result from treating weeds with disease or insect damage, weeds heavily covered with dust, or weeds under poor growing conditions.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off

of the foliage and a repeat application may be required for adequate control.

**Spray Coverage:** For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of run-off.

**Mode of Action:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to formation of specific amino acids.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow.

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

When this label recommends a tank mixture with a generic active ingredient such as diuron, atrazine, 2,4-D, or dicamba, the user is responsible for ensuring that the mixture product's label allows the specific application.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials may result in reduced performance.

Tank mixtures with certain herbicides listed in this label may result in reduced weed control due to antagonism. Read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used. Use according to the most restrictive directions for each product in the mixture.

**Annual Maximum Use Rate:** Except as otherwise specified in a crop

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## GENERAL INFORMATION 12

section of this label, the combined total of all treatments must not exceed 5.3 quarts of this product per acre per year. For applications in non-crop sites or in tree, vine, or shrub crops, the combined total of all treatments must not exceed 7 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

**NOTE:** Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

### Information on Weed Resistance:

GROUP	9	HERBICIDE
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Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices.

Weed resistance management recommendations for Group 9 herbicides are:

- Ensure optimum weed control by making applications at the right time (correct weed size) and utilizing the recommended label rate for the most difficult to control weed in your field.
- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank-mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2 to 4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Monsanto representative.

## 6.0 MIXING

Use the following conversion table to help determine application rates of Roundup Original MAX herbicide based on commonly used rates of Roundup Original herbicide.

Roundup Original MAX CONVERSION TABLE	
Roundup Original MAX (Ounces)	Roundup Original (Ounces)
16	24
22	32
27	40
32	48

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

**NOTE:** REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

## 6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

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## 6.2 Tank Mixing Procedure

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20- to 35-mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If ammonium sulfate is used add it slowly through the screen into the tank. Continue agitation. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding other products.
4. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
5. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
7. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
8. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift reduction additive and water soluble liquid.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance. Ensure that the specific tank mixture product is registered for application at the desired site.

Refer to the "Tank Mixing" section of "GENERAL INFORMATION" for additional precautions.

## 6.3 Mixing for Hand-Held Sprayers

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

### Spray Solution

Desired Volume	0.4%	0.7%	1%	1.5%	4%	7%
1 gal	0.5 oz	1 oz	1.3 oz	2 oz	5 oz	9 oz
25 gal	0.8 qt	0.7 qt	1 qt	1.5 qt	4 qt	7 qt
100 gal	1.6 qt	2.8 qt	1 gal	1.5 gal	4 gal	7 gal

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

## 6.4 Surfactants

Although not generally required, surfactant may be added to this product. However, surfactant addition is recommended at water carrier volumes above 30 gallons per acre or rates below 16 fluid ounces of this product per acre. Nonionic surfactants that are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, a rate of 0.25 to 0.50 percent surfactant concentration (1 to 2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient is recommended. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

When applied as recommended under the conditions described, this product controls annual and perennial weeds listed in the label booklet.

DO NOT add buffering agents or pH adjusting agents to the spray solution when Roundup Original MAX herbicide is the only pesticide used. Unless otherwise directed, nonionic surfactant may be added to the spray solution for applications to Roundup Ready crops. The addition of certain surfactants to this product

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may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Refer to the "ROUNDUP READY CROPS" section of this label or separately published supplemental labeling for additional precautions or restrictions. In addition, always read and carefully observe cautionary statements and other information appearing on the surfactant label.

## 6.5 Ammonium Sulfate

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, particularly under hard water conditions, drought conditions or when tank mixed with certain residual herbicides, on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

NOTE: When using ammonium sulfate, apply this product at rates recommended in this label. Lower rates will result in reduced performance.

## 6.6 Colorants or Dyes

Agriculturally approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

## 6.7 Drift Reduction Additives

Drift reduction additives may be used with all equipment types, except wiper applicators, sponge bars and Controlled Droplet Applicator (CDA) equipment. When a drift reduction additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label. The use of drift reduction additives can affect spray coverage which may result in reduced performance.

## 7.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

**Aerial—Fixed Wing and Helicopter**

**Ground Broadcast Spray**—Boom or boomless systems, pull-type sprayer, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment.

**Hand-Held or High-Volume Spray Equipment**—Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

\*This product is not registered in California or Arizona for use in mistblowers.

**Selective Equipment**—Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.

**Injection Systems**—Aerial or ground injection sprayers.

**Controlled Droplet Applicator (CDA)**—Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

### 7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 22 fluid ounces per acre. Refer to the individual use area sections of this label for recommended volumes, application rates, and further instructions.

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FOR AERIAL APPLICATION IN CALIFORNIA OR SPECIFIC COUNTIES THEREIN, OR ARKANSAS, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE OR COUNTY FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

This product plus dicamba tank mixtures may not be applied by air in California.

Ensure uniform application - To avoid streaked, uneven or overlapped application, use appropriate marking devices.

### AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward, parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

### Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the "Wind", "Temperature and Humidity", and "Temperature Inversions" sections of this label).

### Controlling Droplet Size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation:** Orienting nozzles so that the spray is released

backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.

- **Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom length:** For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller droplets, etc.).

### Wind

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 miles per hour due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### Temperature Inversions

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## APPLICATION EQUIPMENT 20

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### Sensitive Areas

The product should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Avoid direct application to any body of water.

### Aircraft Maintenance

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

## 7.2 Ground Broadcast Equipment

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to

avoid spraying a fine mist. For best results with ground application equipment, use flat spray nozzles. Check for even distribution of spray droplets.

## 7.3 Hand-Held or High-Volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of run-off. Use coarse sprays only. For recommended rates and timing, refer to the "ANNUAL WEEDS—HAND-HELD OR HIGH-VOLUME EQUIPMENT" section of this product label.

## 7.4 Selective Equipment

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars, after dilution and thorough mixing with water, to listed weeds growing in any non-crop site specified on this label.

In cropping systems, hooded sprayers, shielded sprayers, and wipers may be used in row middles (in between rows of crop plants) where any dripping or leaking will not contact crop foliage. Such equipment must be capable of preventing all crop contact with herbicide solutions and operated without leakage of spray mists or dripping onto crop. Wipers over-the-top of crops may be used only when specifically recommended in this product's labeling.

### AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Application equipment used above desirable vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 5 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide

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solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

#### Recirculating Spray System

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

#### Shielded and Hooded Applicators

When applied under the conditions described in the following paragraphs for shielded and hooded applications, this product at recommended rates will control those weeds listed in the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" of this label. A hooded sprayer is a type of shielded applicator where the spray pattern is fully enclosed including top, sides, front and back, thereby shielding the crop from the spray solution. Keep shields on these sprayers adjusted to protect desirable vegetation. When applying to crops grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

Use hoods designed to minimize excessive dripping or run-off down the insides of the hoods. A single, low pressure/low-drift flat-fan nozzle with an 80 to 95 degree spray angle positioned at the top center of the hood is recommended. Spray volume should be 20 to 30 gallons per acre.

These procedures will reduce the potential for crop injury:

- The spray hoods must be operated on the ground or skimming across the ground.
- Leave at least an 8 inch untreated strip over the drill row. For example,

if the crop row width is 38 inches, the maximum width of the spray hood should be 30 inches.

- Maximum tractor speed: 5 miles per hour to avoid bouncing of the spray hoods.
- Maximum wind speed: 10 miles per hour.
- Use low-drift nozzles that provide uniform coverage within the treated area.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

#### Wiper Applicators

When applied under the conditions described in the following paragraphs, this product **CONTROLS** many weeds, including volunteer corn, Texas panicum, common rye, shattercane, sicklepod, spanishneedles, and bristly starbur; and **SUPPRESSES** many weeds including Florida beggarweed, Bermudagrass, hemp dogbane, dogfennel, guineagrass, johnsongrass, milkweed, silverleaf nightshade, redroot pigweed, giant ragweed, smutgrass, sunflower, Canada thistle, musk thistle, vaseygrass, and velvetleaf.

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if two applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

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Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution.

**For Rope or Sponge Wick Applicators**—Solutions ranging from 33 to 75 percent of this product in water may be used. Apply this solution to weeds listed above in this section.

**For Panel Applicators**—Solutions ranging from 33 to 100 percent of this product in water may be used in panel wiper applicators.

## 7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products when using injection systems.

## 7.6 CDA Equipment

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 2 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 miles per hour (1 quart per acre). For the control of perennial weeds, apply a 20- to 30-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 miles per hour (2 to 3 quarts per acre).

Controlled droplet application equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

## 8.0 ANNUAL AND PERENNIAL CROPS (Alphabetical)

**NOTE:** THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED CROPS WITHIN SECTION 8 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PRE-HARVEST INTERVALS, AND ADDITIONAL PRECAUTIONS AND RESTRICTIONS.

See the "ROUNDUP READY CROPS" section of this label or separately published Monsanto Supplemental Labeling for instructions for treating Roundup Ready crops.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, and Post-Harvest Treatments.

### GENERAL USE INSTRUCTIONS:

Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or preemergent to annual and perennial crops listed in this label, except where specifically limited. For any crop not listed in this label, applications must be made at least 30 days prior to planting. Unless otherwise specified, weed control applications may be made according to the rates listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" in this label. Repeat applications may be made up to a maximum of 5.3 quarts per acre per year.

Post-directed hooded sprayers and wiper equipment capable of preventing all crop contact with herbicide solutions may be used in mulched or unmulched row middles after crop establishment. Where specifically noted below, wipers may also be used above certain crops to control tall weeds. Refer to the "Selective Equipment" section of this label for essential precautions when using hooded sprayers or wipers to avoid crop injury caused by leakage of spray mists or dripping onto crops. Crop injury is possible with these applications and shall be the sole responsibility of the applicator.

The maximum use rates stated throughout this product's labeling apply

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to this product combined with the use of all other herbicides containing glyphosate or sullosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sullosate containing products does not exceed stated maximum use rate.

#### GENERAL PRECAUTIONS, RESTRICTIONS:

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Broadcast applications made at emergence will result in injury or death to emerged seedlings. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

In crops where spot treatments are allowed, do not treat more than 10 percent of the total field to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason.

For broadcast postemergent treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

## 8.1 Cereal and Grain Crops

**LABELED CROPS:** Barley, Buckwheat, Millet (pearl, proso), Oats, Rice, Rye, Quinoa, Teft, Teosinte, Triticale, Wheat (all types), Wild Rice.

**PRECAUTIONS, RESTRICTIONS:** Do not treat rice fields or levees when field contains water.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Red Rice Control Prior to Planting Rice, Spot Treatment (except Rice), Over-the-Top Wiper Applications (Feed Barley and Wheat Only).

*Preharvest (Feed Barley and Wheat Only).*

*Preplant, Preemergence, At-Planting*

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of cereal crops. Applications must be made prior to emergence of the crop.

*Red Rice Control Prior to Planting Rice*

**USE INSTRUCTIONS:** Apply 32 fluid ounces of this product in 5 to 10 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of red rice. Make application when the majority of the red rice plants are in the 2-leaf stage and no more than 4 inches tall. Red rice plants with less than 2 true leaves may be only partially controlled.

**PRECAUTIONS, RESTRICTIONS:** Avoid spraying during low humidity conditions, as reduced control may result. Do not treat rice fields or levees when the fields contain floodwater. Do not reflood treated fields for 8 days following application.

*Spot Treatment (except Rice)*

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in cereal crops. Apply this product before heading in small grains.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

*Over-the-Top Wiper Applications (Feed Barley and Wheat Only)*

**USE INSTRUCTIONS:** Wiper applications may be used in wheat and feed barley. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth, and when the rye is at least 6 inches above the wheat crop.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 35 days between application and harvest. Do not use roller applicators.

*Preharvest (Feed Barley and Wheat Only)*

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of wheat or feed barley. For wheat, apply after the hard-dough stage of grain (30 percent or less grain moisture). For feed barley,

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apply after the hard-dough stage and when the grain contains 20 percent moisture or less. Stubble may be grazed immediately after harvest.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 22 fluid ounces of this product per acre. Allow 7 days between application and harvest or grazing. Preharvest application is not recommended for wheat or barley grown for seed, as a reduction in germination or vigor may occur.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied after harvest of cereal crops. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## 8.2 Corn

**TYPES OF CORN:** Field Corn, Seed Corn, Silage Corn, Sweet Corn and Popcorn.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Spot Treatment, Preharvest.

For use directions for corn containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting corn. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting corn. Apply these tank mixtures in 10 to 20 gallons of

water or 10 to 60 gallons of nitrogen solution per acre.

2,4-D	Frontier®/Outlook®
Am®	FulTime®
atrazine	Guardman®/Leadoff®
Ation®	Harness®
Balance®	Harness Xtra
Banvel®/Clarity®	Harness Xtra 5.6L
Bicep MAGNUM®	Lariat®
Bicep II MAGNUM®	Lasso®/Alachlor
Bullet®	Line®/Lorox™
Degree®	Marksman®
Degree Xtra®	Micro-Tech®
Distinct®	Prowl®
Dual MAGNUM®	Python®
Dual II MAGNUM®	Simazine
Epic®	TopNotch®

For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, use rate may need to be increased for acceptable weed control.

**PRECAUTIONS, RESTRICTIONS:** Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn.

For Southern states, do not apply in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. The area covered by this recommendation includes from Route 50 South in Illinois and Indiana and the following states: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

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**Hooded Sprayers**

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of corn. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Corn must be at least 12 inches tall, measured without extending leaves. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not apply more than 22 fluid ounces of this product per acre for each application and no more than 64 fluid ounces per acre per year for hooded sprayer applications.

**Spot Treatment**

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to silking of corn.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**Preharvest**

**USE INSTRUCTIONS:** Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground applications, apply up to 64 fluid ounces of this product per acre. For aerial applications, apply up to 44 fluid ounces of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest. Preharvest application is not recommended for corn grown for seed, as a reduction in germination or vigor may occur.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

**8.3 Cotton**

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Selective Equipment, Spot Treatment, Preharvest.

For use direction for cotton containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting cotton. Apply these tank mixtures in 10 to 20 gallons of water per acre.

Caparol®  
Clarity®  
Command  
Cotoran®  
Cotton-Pro®  
Direx®  
Dual Magnum

Dual II Magnum  
Karmex®  
Meturon®  
Prowl  
Slaple®  
Zorial®  
2,4-D

**PRECAUTIONS/RESTRICTIONS:** Refer to individual product labels for rates, restrictions, precautionary statements and preplant intervals.

**Hooded Sprayers, Selective Equipment**

**USE INSTRUCTIONS:** This product may be applied through hooded sprayers, recirculating sprayers, shielded applicators or wiper applicators in cotton. Allow at least 7 days between application and harvest.

**PRECAUTIONS, RESTRICTIONS:** See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

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**Spot Treatment**

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to bolt opening of cotton.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**Preharvest**

**USE INSTRUCTIONS:** This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" of this label. For cotton regrowth inhibition, apply 11 to 44 fluid ounces of this product per acre.

Up to 44 fluid ounces of this product may be applied using either aerial or ground spray equipment. Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

**TANK MIXTURES:** This product may be tank-mixed with DEF™ 6, Folex™, Ginstar, or Prep™ to provide additional enhancement of cotton leaf drop.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Preharvest application is not recommended for cotton grown for seed, as a reduction in germination or vigor may occur.

## 8.4 Fallow Systems

**LABELED CROPS:** This product may be applied during the fallow period prior to planting or emergence of any crop on this label.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Aid-to-Tillage.

**Chemical Fallow**

**USE INSTRUCTIONS:** This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. This

product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used. Applications up to 44 fluid ounces per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting. Do not apply dicamba tank mixtures by air in California.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if dicamba is applied within 45 days of planting.

**Preplant Fallow Beds**

**USE INSTRUCTIONS:** This product may be applied to fallow beds prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product will control weeds listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" of this label.

**TANK MIXTURES:** In addition, 8 fluid ounces of this product plus 2 to 3 fluid ounces of Goal® 2Xl per acre will control the following weeds with the maximum height or length indicated: 3 inches—common cheeseweed, chickweed, groundset; 6 inches—London rocket, shepherd's-purse.

11 fluid ounces of this product plus 2 to 3 fluid ounces of Goal 2Xl per acre will control the following weeds with the maximum height or length indicated: 6 inches—common cheeseweed, groundset, marestail (*Conyza canadensis*), 12 inches—chickweed, London rocket, shepherd's-purse.

**Aid-to-Tillage**

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be

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followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.

PRECAUTIONS, RESTRICTIONS: Tank mixtures with residual herbicides may result in reduced performance.

## 8.5 Grain Sorghum (Milo)

TYPES OF APPLICATIONS: Those listed in Section 8.0 plus the following: Spot Treatment, Over-the-Top Wiper Applications, Preharvest.

### Preplant, Preemergence, At-Planting

USE INSTRUCTIONS: This product may be applied alone or in tank-mixture before, during or after planting grain sorghum. Applications must be made prior to emergence of the crop.

TANK MIXTURES: This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting grain sorghum. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 50 gallons of nitrogen solution per acre.

Atrazine	IntRRo™
Bicep II MAGNUM	Lariat
Bullet	Lasso
Dual II MAGNUM	Micro-Tech

For difficult-to-control annual weeds such as fall panicum, barnyard-grass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, the use rate may need to be increased for acceptable weed control.

### Spot Treatment, Over-the-Top Wiper Applications

USE INSTRUCTIONS: This product may be applied as a spot treatment in grain sorghum. Make spot treatments before heading of milo. This product may be applied with wiper applicators to control or suppress the

weeds listed under "Wiper Applicators" in the "Selective Equipment" section of this label.

PRECAUTIONS, RESTRICTIONS: For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

### Hooded Sprayers

USE INSTRUCTIONS: This product may be used through hooded sprayers for weed control between the rows of milo. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

PRECAUTIONS, RESTRICTIONS: Milo must be at least 12 inches tall, measured without extending leaves. Treat before milo sends tillers between the drill rows. If such tillers are contacted with the spray solution, the main plant may be killed. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers. Do not apply more than 22 fluid ounces of this product per acre per application and no more than 64 fluid ounces per acre per year for hooded sprayer applications.

### Preharvest

USE INSTRUCTIONS: Make applications at 30 percent grain moisture or less.

PRECAUTIONS, RESTRICTIONS: Do not apply more than 44 fluid ounces

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of this product per acre. As with other herbicides that cause sudden plant death, avoid preharvest applications of this product to milo infected with charcoal rot as lodging can occur. Allow a minimum of 7 days between application and harvest of sorghum. Preharvest application is not recommended for sorghum grown for seed, as a reduction in germination or vigor may occur. The use of this product for preharvest grain sorghum (milo) is not registered in California.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied after harvest of grain sorghum. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 22 fluid ounces of this product per acre for control, or 16 fluid ounces of this product per acre for suppression.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## 8.6 Herbs and Spices

**LABELED CROPS:** Allspice, Angelica, Star anise, Anatto (seed), Balm, Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Black caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese chive, Cinnamon, Clary, Clove buds, Coriander leaf (cilantro or chinese parsley), Coriander seed (cilantro), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Dill (dillweed), Dill (seed), Epazote, Fennel seed (common and Florence), Fenugreek, White ginger flower, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf and seed), Mace, Marigold, Marjoram (including oregano), Mexican oregano, Mioga flower, Mustard (seed), Nasturtium, Nutmeg, Parsley (dried), Pennyroyal, Pepper (black and white), Pepper leaves, Peppermint, Perilla, Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Spearmint, Stevia leaves, Sweet bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wrenthorn.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Over-the-Top Wiper Applications (Peppermint and Spearmint Only), Spot Treatment (Peppermint and Spearmint Only).

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to ensure that the wash water flushes off the plastic mulch and does not enter transplant holes.

**Over-the-Top Wiper Applications, Spot Treatment (Peppermint and Spearmint Only)**

**USE INSTRUCTIONS:** This product may be used as a spot treatment or wiper application in spearmint and peppermint. Apply spot treatments on a spray-to-wet basis with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, handguns, handwands or any other hand-held or motorized spray equipment used to direct the spray solution to a limited area. In wiper applications, the applicator should be adjusted so that the wiper contact point is at least 2 inches above the crop. Weeds should be a minimum of 6 inches taller than the crop.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30-day intervals. In spot treatment applications, no more than 10 percent of the total field area to be harvested should be treated at one time. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for this reason. In wiper applications, contact of the herbicide solution with the crop may result in damage or destruction.

## 8.7 Oil Seed Crops

**LABELED CROPS:** Borage, Buffalo gourd (seed), Canola, Crambe, Flax, Jojoba, Lesquerella, Meadowfoam, Mustard (seed), Rape, Safflower, Sesame, Sunflower.

For use directions for canola containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

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**TYPES OF APPLICATIONS:** Those listed in Section 8.0.

**USE INSTRUCTIONS:** This product may be applied before, during or after planting oil seed crops. Broadcast applications must be made prior to emergence of the listed oil seed crops. Wiper applicators or hooded sprayers may be used between the rows once the crop is established.

**TANK MIXTURES:** For sunflowers, a tank mixture with Prowl may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 44 fluid ounces of this product per acre on canola. Do not apply more than 22 fluid ounces of this product per acre for sunflowers as a single preplant or preemergent application per year. Do not feed or graze sunflower forage following application of this product.

## 8.8 Soybeans

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Spot Treatment, Preharvest, Selective Equipment.

For use directions for soybeans containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in a tank-mixture before, during or after planting soybeans. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** Apply these tank mixtures in 10 to 20 gallons of water per acre.

Aim	Command™
Amplify™	Command Xtra™
Assure® II	Domain®
Authority®	Dual MAGNUM
Boundary®	Dual II MAGNUM
Canopy®	FirstRate®
Canopy XL®	Flexstar™
Cobra®	Frontier/Outlook

Fusion®	Pursuit®
Gauntlet®	Pursuit Plus
IntRRo	Reflex®
Lasso	Scepter®
Linex	Sencor®/Lexone®
Lorox/linuron	Select™
Lorox Plus®	Squadron®
Micro-Tech	Steel®
Prowl	Valor®

This product may be tank-mixed with 2,4-D or 2,4-DB, provided that the specific product is registered for application prior to planting soybeans. See the 2,4-D label for intervals between application and planting.

For difficult-to-control annual weeds such as fall panicum, barnyard-grass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 5 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall.

**PRECAUTIONS, RESTRICTIONS:** Tank-mixtures with some of the above listed herbicides may result in reduced weed control due to antagonism. Read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used. Use according to the most restrictive directions for each product in the mixture.

### Spot Treatment

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to initial pod set in soybeans.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

### Preharvest

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans.

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Apply at rates given in the "ANNUAL WEEDS", "PERENNIAL WEEDS" and "WOODY BRUSH AND TREES RATE SECTIONS". This product may be applied using either aerial or ground spray equipment. Apply after pods have set and lost all green color. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 3.3 quarts per acre of this product for preharvest applications. Do not apply more than 44 fluid ounces per acre of this product by air. Allow a minimum of 7 days between application and harvest of soybeans. Do not graze or harvest treated hay or fodder for livestock feed within 25 days of last preharvest application. (If the application rate is 22 fluid ounces per acre or lower, the grazing restriction is reduced to 14 days after last preharvest application.) Preharvest application is not recommended for soybeans grown for seed, as a reduction in germination or vigor may occur.

#### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans. Allow at least 7 days between application and harvest.

**PRECAUTIONS, RESTRICTIONS:** See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

## 8.9 Sugarcane

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus Spot Treatment.

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied in or around sugarcane fields or in fields prior to the emergence of plant cane.

**PRECAUTIONS, RESTRICTIONS:** Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

#### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 1-

percent solution of this product in water and spray-to-wet the foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.

**PRECAUTIONS, RESTRICTIONS:** Avoid spray contact with healthy cane plants since severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

#### Fallow Treatments

**USE INSTRUCTIONS:** This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 2.5 to 3.3 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage. Ground or aerial application equipment may be used. Applications up to 64 fluid ounces per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops. Tank mixtures with 2,4-D and dicamba may be used.

#### Hooded Sprayers

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of sugarcane. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional use instructions.

**PRECAUTIONS, RESTRICTIONS:** Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

## 8.10 Vegetable Crops

**NOTE:** THIS "VEGETABLE CROPS" SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED VEGETABLE CROPS WITHIN SECTION 8.10 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

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**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, Prior to Transplanting Vegetables, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, and Post-Harvest, Directed Applications (Non-Bearing Ginseng), Over-the-Top Wiper Applications (Rutabagas Only).

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to insure that the wash water flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

### 8.10.1 Brassica Vegetables

**LABELED CROPS:** Broccoli, Chinese broccoli (gai lan), Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens.

### 8.10.2 Bulb Vegetables

**LABELED CROPS:** Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot.

### 8.10.3 Cucurbit Vegetables and Fruits

**LABELED CROPS:** Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucuzza, hechima, Chinese okra), Melons (all), *Momordica spp* (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden persimelon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straight-neck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon.

**PRECAUTIONS, RESTRICTIONS:** For Cantaloupe, Casaba melon, Crenshaw melon, Cucumber, Gherkin, Gourds, Honeydew melon, Honey ball melon, Mango melon, Melons (all), Muskmelon, Persian melon, Pumpkin, Squash (summer, winter), and Watermelon, allow at least 3 days between application and planting.

### 8.10.4 Leafy Vegetables

**LABELED CROPS:** Amaranth (Chinese spinach), Arugula (rocket), Beet greens, Cardoon, Celery, Chinese celery, Celtuce, Chaya, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Dekudami, Endive (escarole), Florence fennel, Gow kee, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Swiss chard, Watercress (upland), Water spinach.

**PRECAUTIONS, RESTRICTIONS:** For Watercress, avoid applications within 3 days prior to seeding and during the period between seeding and

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emergence to minimize the risk of injury.

### 8.10.5 Fruiting Vegetables

**LABELED CROPS:** Eggplant, Groundcherry (*Physalis* spp), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato.

**PRECAUTIONS, RESTRICTIONS:** For Eggplant, Ground cherry, Pepper (all) and Tomatillo, allow at least 3 days between application and planting. For tomato, do not make hooded or shielded sprayer applications in row middles unless otherwise directed.

### 8.10.6 Legume Vegetables (succulent or dried)

**LABELED CROPS:** Bean (*Lupinus*; includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus*; includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (*Vigna*; includes adzuki bean, asparagus bean, blackeyed pea, caliang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, wid bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (*Pisum*; includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean.

### 8.10.7 Root and Tuber Vegetables

**LABELED CROPS:** Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Beet (garden), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Galangal, Ginger, Ginseng, Horseradish, Leren, Kava (turnip-rooted), Parsley (turnip rooted), Parsnip, Potato, Radish, Oriental radish, Rutabaga, Salsify, Black salsify, Spanish salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Wasabi, Yacon, Yam bean, True yam.

#### Directed Applications (Non-Bearing Ginseng Only)

**USE INSTRUCTIONS:** This product may be used for general weed control in established non-bearing ginseng. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high volume wands, lances, and orchard guns or with wiper application equipment.

**PRECAUTIONS, RESTRICTIONS:** Direct applications so that there is no contact of this product with the ginseng plant. Applications must be made at least one year prior to harvest.

#### Over-the-Top Wiper Applications (Rutabagas Only)

**USE INSTRUCTIONS:** Wiper applicators may be used over-the-top of rutabagas.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 14 days between application and harvest of rutabagas.

### 8.11 Miscellaneous Crops

**LABELED CROPS:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: General Weed Control, Site Preparation, Spot Treatment (Asparagus), Post-Harvest (Asparagus).

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this

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label for additional information.

#### General Weed Control, Site Preparation

**USE INSTRUCTIONS:** This product may be applied for general weed control or for site preparation prior to planting or transplanting crops listed in this section.

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to ensure that the wash water flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application.

#### Spot Treatment (Asparagus)

**USE INSTRUCTIONS:** This product may be applied immediately after cutting, but prior to the emergence of new spears.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

#### Post-Harvest (Asparagus)

**USE INSTRUCTIONS:** This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

**PRECAUTIONS, RESTRICTIONS:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence post-harvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

## 9.0 TREE, VINE, AND SHRUB CROPS (Alphabetical)

**NOTE:** THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED TREE, VINE, AND SHRUB CROPS WITHIN SECTION 9 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATIONS:** Preplant (Site Preparation) Broadcast Sprays, General Weed Control, Middles (between rows of trees, vines or bushes), Strips (within rows of trees, vines or bushes), Selective Equipment (shielded sprayers, wiper applications), Directed Sprays, Spot Treatment, Perennial Grass Suppression, Cut Stump.

Applications may be made with boom equipment, COA equipment, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed.

**GENERAL USE INSTRUCTIONS:** This product may be applied in middles (between rows of trees or vines), strips (within rows of trees or vines), and for general weed control or perennial grass suppression in established tree fruit and nut groves, orchards, berries, and vineyards. It may also be used for site preparation prior to planting or transplanting these crops. Apply 11 fluid ounces to 3.3 quarts per acre according to the label. Utilize rates at the higher end of the recommended rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 7 quarts per acre per year.

The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

**GENERAL PRECAUTIONS, RESTRICTIONS:** Extreme care must be exercised

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to avoid contact of herbicide solution, spray, drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees, canes and vines. Avoid applications when recent pruning wounds or other mechanical injury has occurred. Contact of this product with other than matured brown bark can result in serious crop damage or destruction. Only shielded or directed sprayers may be used in crops with potential for crop contact, and then only where there is sufficient clearance. For applications in strips (within rows of trees), only selective equipment (directed sprays, hooded sprayers, shielded applicators, or wipers) should be used to minimize the potential for leakage or drift of herbicide sprays onto crop. For berry crops, hooded or shielded sprayers must be fully enclosed including top, sides, front and back. Only wipers or shielded applicators capable of preventing all contact with crop may be used. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional directions and precautions.

Allow a minimum of 3 days between application and transplanting.

### Middles (between rows)

**USE INSTRUCTIONS:** This product will control or suppress annual and perennial weeds and ground covers growing between the rows of labeled tree and vine crops. If weeds are under drought stress, irrigate prior to application. Reduced control may result if weeds have been mowed prior to application.

**TANK MIXTURES:** A tank mixture of this product plus Goal 2XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations. 11 to 22 fluid ounces per acre of this product plus 3 to 11 fluid ounces per acre of Goal 2XL will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, common groundsel, jungletite, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherd's-purse, annual sowthistle, filaree (suppression), horse-weed/marestail, stinging nettle and common purslane (suppression). 11 to 22 fluid ounces per acre of this product plus 3 to 11 fluid ounces per acre of Goal 2XL will control common cheeseweed (malva) or hairy flea-bane with a maximum height or diameter of 3 inches.

### Strips (in rows)

**TANK MIXTURES:** This product may be applied in rows of tree or vine crops in tank mixtures with the following products:

Devlinol™ 50 DF	Simazine 4L
Direx 4L	Simazine 80W
Goal 2XL	Sim-Trol® 4L
Karmex® DF	Solicam DF
Krover I	Surflan® AS
Prowl	Surflan 75W
Princep Caliber™ 90	

Do not apply these tank mixtures in Puerto Rico.

Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

### Perennial Grass Suppression

This product will suppress perennial grasses such as bahiagrass, Bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 4 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 4 fluid ounces of this product per acre. Do not add ammonium sulfate.

For best results, mow cool season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 2 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of Bermudagrass, apply 22 to 44 fluid ounces of this product

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in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the Bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

For suppression of Bermudagrass, apply 4 to 11 fluid ounces of this product per acre east of the Rocky Mountains and 11 fluid ounces of this product per acre west of the Rocky Mountains. Apply in a total spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the Bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and Bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 4 to 7 fluid ounces of this product per acre should be used in shaded conditions or where a lesser degree of suppression is desired.

#### Cut Stump

**USE INSTRUCTIONS:** Cut stump applications of this product may be made during site preparation or site renovation, prior to transplanting tree crops. This product will control regrowth of cut stumps and resprouts of many types of tree species, some of which are listed below.

Citrus Trees: Calamondin, Chironja, Citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (Tangerine), Orange (all), Pummelo, Tangelo, Tangor.

Fruit Trees: Apple, Apricot, Cherry (sweet, sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (all), Quince.

Nut Trees: Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory Nut, Macadamia, Pecan, Pistachio, Walnut (black, English).

Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

**PRECAUTIONS, RESTRICTIONS:** DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF ADJACENT DESIRABLE TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

## 9.1 Berry Crops

**LABELED CROPS:** Blackberry (including bingleberry, black satin berry, boysenberry, Cherokee blackberry, chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, juneberry, lavacaberry, lowberry, lucretiaberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, and youngberry), Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Loganberry, Salal.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0 plus Spot Treatment in Cranberry Production and Post-Harvest Treatments in Cranberry Production.

**PRECAUTIONS, RESTRICTIONS:** To avoid damage, herbicide sprays must not be allowed to contact desirable vegetation, including green shoots, canes, or foliage. Allow a minimum of 30 days between last application and harvest in cranberries. Allow a minimum of 14 days between last application and harvest in other berry crops. Do not make directed sprays within the cranberry bush areas prior to berry harvest.

#### Spot Treatment in Cranberry Production

**USE INSTRUCTIONS:** Spot treatments may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. Hand-held sprayers or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. Drop water level to remove standing water in ditches prior to application. In hand-held sprayers, use 1- to 1.5-percent solution of this product. Spray to wet vegetation, not to run-off.

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**PRECAUTIONS, RESTRICTIONS:** For treatments after draw down of water in dry ditches, allow 2 or more days after treatment before reintroduction of water to achieve maximum weed control. Apply this product within 1 day after draw down to ensure application to actively growing weeds. Allow a minimum of 30 days between last application and harvest of cranberries. Do not apply this material through the irrigation system. Do not make applications by air. Do not apply directly to water. Use nozzles that emit medium- to large-sized droplets to minimize drift in order to avoid crop injury.

### Post-Harvest Treatments in Cranberry Production

**USE INSTRUCTIONS:** Application of this product may be made after the harvest of cranberries to control weeds growing within the field. Best results will be obtained if applications are made to vines that appear dormant (after they have turned red). Hand-held sprayers, wipers, or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. If using hand-held sprayers, use a 0.4- to 0.7-percent solution of this product. Spray to wet vegetation, not to run-off. If using hand-held boom sprayers, apply 44 to 86 fluid ounces of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Make applications only after cranberries have been harvested. Do not treat more than 10 percent of the total bog. Allow a minimum of 6 months after last application and next harvest of cranberries. Do not apply this product through the irrigation system. Do not make applications by air. Do not apply directly to water. Even though vines appear dormant, contact of the herbicide solution with desirable vegetation may result in damage or severe plant injury. Cranberry plants that are directly sprayed may be killed.

## 9.2 Citrus

**LABELED CROPS:** Calamondin, Chironja, Citron, Citrus Hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (all), Pummelo, Satsuma Mandarin, Tangelo (ugh), Tanger.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**USE INSTRUCTIONS:** (The recommendations below pertain to Florida and Texas.)

For burndown or control of the weeds listed below, apply the recommended rates of this product in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre. For goatweed, apply 44 to 64 fluid ounces of this product per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 44 fluid ounces per acre when plants are less than 8 inches tall and 64 fluid ounces per acre when plants are greater than 8 inches tall. If goatweed is greater than 3 inches tall, the addition of Krovar® 1 or Karmex® may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

Perennial weeds:

S = Suppression  
PC = Partial control

B = Burndown  
C = Control

WEED SPECIES	ROUNDUP ORIGINAL MAX RATE PER ACRE			
	0.7 QT	1.3 QT	2 QT	3.3 QT
Bermudagrass	B	—	PC	C
Guineagrass	B	C	C	C
Texas and Florida Ridge	—	B	C	C
Florida Flatwoods	B	C	C	C
Paragrass	S	—	PC	C
Lorpedograss	S	—	PC	C

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in citrus crops. For citron groves, apply as directed sprays only.

## 9.3 Miscellaneous Tree Food Crops

**LABELED CROPS:** Cactus (fruit and pads), Palm (heart, leaves), Palm (oil).

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

## 9.4 Non-Food Tree Crops

**LABELED CROPS:** Pine, Poplar, Eucalyptus, Christmas Trees, Other non-food tree crops.

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**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**NOTE:** Unless otherwise directed, this product is not recommended for use as an over-the-top broadcast spray in plantations or other labeled tree crops.

**Directed Sprays, Spot Treatment, Wiper Applications**

**USE INSTRUCTIONS:** This product may be used as a post-directed spray and spot treatment around established poplar, eucalyptus, Christmas trees and other non-food tree crops.

**PRECAUTIONS, RESTRICTIONS:** Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established Christmas trees and other pine trees. Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

**Site Preparation**

**USE INSTRUCTIONS:** This product may be used prior to planting.

**PRECAUTIONS, RESTRICTIONS:** Precautions should be taken to protect nontarget plants during site preparation applications.

### 9.5 Pome Fruit

**LABELED CROPS:** Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in pome crops.

### 9.6 Stone Fruit

**LABELED CROPS:** Apricot, Cherry (sweet, tart), Nectarine, Olive, Peach, Plum/Prune (all types), Plumcot.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0, except for olive groves, apply as directed sprays only.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 17 days between last application and harvest in stone fruit crops. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications

near trees with recent pruning wounds or other mechanical injury. **EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.**

### 9.7 Tree Nuts

**LABELED CROPS:** Almond, Beechnut, Betelnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Coconut, Filbert (hazelnut), Hickory nut, Macadamia, Pecan, Pine nut, Pistachio, Walnut (black, English)

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 3 days between last application and harvest of tree nuts, except coconut. Allow 14 days between application and harvest in coconut.

### 9.8 Tropical and Subtropical Trees and Fruits

**LABELED CROPS:** Ambarella, Atemoya, Avocado, Banana, Barbados cherry (acerola), Biriba, Blimbe, Breadfruit, Cacao (cocoa) bean, Canistel, Carambola (starfruit), Cherimoya, Coffee, Custard apple, Dates, Durian, Feijoa, Figs, Governor's plum, Guava, Ilaça, Imbe, Imbu, Jaboticaba, Jackfruit, Longan, Lychee, Mamey apple, Mango, Mangosteen, Marmaladebox (genip), Mountain papaya, Papaya, Pawpaw, Plantain, Persimmon, Pomegranate, Pulasan, Rambutan, Rose apple, Sapodilla, Sapote (black, mamey, white), Spanish lime, Soursoap, Star apple, Sugar apple, Surinam cherry, Tamarind, Tea, Ti (roots and leaves), Wax jambu.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0 plus Bananacide (Banana only).

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in banana, guava, papaya, and plantain crops. Allow a minimum of 14 days between last application and harvest for any other tropical or subtropical tree fruit. Allow a minimum of 28 days between last application and harvest in coffee crops. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

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### Bananacide (Banana only)

**USE INSTRUCTIONS:** This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus as well as non-infected banana plants to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 0.04 fluid ounce (1 mL) of this product's concentrate per 2 to 3 inches of pseudostem diameter. Make the injection at least one foot above the ground, except for very small plants, which should be injected vertically into the top. Any subsequent regrowth must also be destroyed. All plants and mats (or units) adjacent (within a 4-foot radius) to a treated mat shall be mechanically destroyed.

For control of the Banana Bunchy Top Virus, it is critical that the grower follow a strict control program involving monitoring for diseased plants, spraying to control the aphid vector, and destruction of all infected mats (or units). An infected plant may not show symptoms of the banana bunchy top virus for up to 125 days, therefore it is critical that the entire mat (or unit) containing the diseased plant be destroyed immediately.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 0.5 fluid ounce (15 mL) of this product's concentrate per mat (or unit). Remove all fruit from plants and mats (or units) prior to treatment. Do not harvest any fruit or plant materials from treated mats (or units) following injection. Do not allow livestock to consume treated plant materials. Following transplant of new banana plants into treated areas, allow plants to become established for 3 months before applying this product for general weed control.

## 9.9 Vine Crops

**LABELED CROPS:** Grapes (raisin, table, wine), Hops, Kiwi, Passion fruit.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

Applications should not be made when green shoots, canes or foliage are in the spray zone.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury, or make applications with shielded sprayers or wiper equipment.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 14 days between last application and harvest in vine crops. Do not use selective equipment in kiwi.

## 10.0 PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS

### 10.1 Alfalfa, Clover, and Other Forage Legumes

**LABELED CROPS:** Alfalfa, Clover, Kenaf, Kudzu, Lespedeza, Leucaena, Lupin, Sainfoin, Trefoil, Velvet bean, Vetch (all types).

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Preharvest (except Kenaf and Leucaena), Spot Treatment, Over-the-Top Wiper Applications, Renovation.

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting crops listed in this section. Applications must be made prior to emergence of the crop.

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application. The crop may be fed or grazed as soon as it reaches sufficient maturity.

#### Preharvest (except Kenaf and Leucaena)

**USE INSTRUCTIONS:** This product may be used in declining stands or any stand where severe crop injury or destruction is acceptable. This product will control annual and perennial weeds, including quackgrass, when applied prior to crop harvest. Applications may be made at any time of the year. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control.

**PRECAUTIONS, RESTRICTIONS:** Make only one application to an existing crop stand per year. The treated crop and weeds can be harvested and fed to livestock according to the intervals below.

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	Maximum Single Application Rate*	Minimum Interval between application and harvest/grazing
Alfalfa	44 fluid ounces	36 hours
All other labeled legumes above	32 fluid ounces	3 days

\* By aerial or ground broadcast spray

This application may destroy an alfalfa stand and may severely injure or destroy other labeled crops such as clover. Preharvest application is not recommended for alfalfa grown for seed, as a reduction in germination or vigor may occur.

#### Spot Treatment, Over-the-Top Wiper Applications

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators. For wipers, see the "Wiper Applicators" in the "Selective Equipment" section of this label. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than 10 percent of the total field area should be treated at one time. Remove domestic livestock before application and wait 3 days after application before grazing livestock or harvesting.

#### Renovation

**USE INSTRUCTIONS:** This product may be applied as a broadcast spray to renovate existing stands of alfalfa, clover, and other labeled forage legumes. If the crop is to be grazed or harvested for feed, use up to 44 fluid ounces per acre in alfalfa and up to 32 fluid ounces per acre in other labeled legumes. For complete removal of established stands of clover, it may be necessary to use the higher treatment rates listed in the "PERENNIAL WEEDS RATE SECTION".

**PRECAUTIONS, RESTRICTIONS:** When treatment rates of 44 fluid ounces per acre for alfalfa or 32 fluid ounces per acre for other forage legumes are used, remove domestic livestock before application and wait 3 days after application before reintroduction. If treatment rates above these levels are necessary, do not graze or harvest treated foliage for livestock feed. Crops listed for treatment in this label may be planted into the treated area at

any time; for other crops, wait 30 days between application and planting.

## 10.2 Conservation Reserve Program (CRP)

**TYPES OF APPLICATIONS:** Renovation (rotating out of CRP), Site Preparation, Postemergence Weed Control in Dormant CRP Grasses, Over-the-Top Wiper Applications.

#### Renovation (Rotating out of CRP), Site Preparation

**USE INSTRUCTIONS:** This product may be used to prepare CRP land for crop production. Refer to Federal, state or local use guides for CRP renovation recommendations. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting.

#### Postemergence Weed Control in Dormant CRP Grasses, Over-the-Top Wiper Applications

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 8 to 11 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 2 quarts per acre per year onto CRP grasses.

## 10.3 Grass Seed or Sod Production

**LABELLED CROPS:** Any grass (Gramineae family) except Corn, Sorghum, Sugarcane and those listed in this label under "Cereal Crops".

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Renovation, Removal of Established Stands, Site Preparation, Shielded

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## PASTURES AND RANGELANDS 60

Sprayers, Over-the-Top Wiper Applications, Spot Treatment, Creating Rows in Annual Ryegrass.

Preplant, Preemergence, At-Planting, Renovation, Removal of Established Stands, Site Preparation

**USE INSTRUCTIONS:** This product controls most existing vegetation prior to renovating turf or forage grass seed areas or establishing turf grass grown for sod. It may also be used to destroy remaining undesired grass vegetation when production fields are converted to alternate species or crops. Make applications before, during, or after planting or for renovation. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as Bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates up to 3.3 quarts per acre may be used to totally remove established stands of tough to kill grass species.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting. Applications must be made prior to the emergence of the crop to avoid crop injury.

### Shielded Sprayers

**USE INSTRUCTIONS:** Apply 22 to 64 fluid ounces of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aid in shielded sprayer applications.

Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields. For additional instructions, see "Hooded and Shielded Applicators" in the "Selective Equipment" section.

**PRECAUTIONS, RESTRICTIONS:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

### Over-the-Top Wiper Applications

**USE INSTRUCTIONS:** Applicators should be adjusted so that the wiper contact point is at least 2 inches above the desirable vegetation. Weeds should be a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when height of weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. For additional instructions, see "Wiper Applicators" in the "Selective Equipment" section.

**PRECAUTIONS, RESTRICTIONS:** Contact of the herbicide solution with desirable vegetation may result in damage or destruction.

### Spot Treatment

**USE INSTRUCTIONS:** Use a 1.0-percent solution.

**PRECAUTIONS, RESTRICTIONS:** Apply this product prior to heading of grasses grown for seed. The crop receiving the spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason. Hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

### Creating Rows in Annual Ryegrass

**USE INSTRUCTIONS:** Use 11 to 22 fluid ounces of this product per acre. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height.

**PRECAUTIONS, RESTRICTIONS:** Set nozzle heights to allow the establishment of the desired row spacing while preventing spray droplets, spray fines, or drift to contact the ryegrass plants not treated. Use of low-pressure nozzles, or drop nozzles designed to target the application over a

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narrow band are recommended.

Grower assumes all responsibility for crop losses from misapplication.

## 10.4 Pastures

**LABELLED CROPS:** Any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in this label under "Cereal Crops", including Bahiagrass, Bermudagrass, Bluegrass, Brome, Fescue, Guinea grass, Kikuyugrass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass.

**TYPES OF APPLICATIONS:** Preplant, Preemergence, Pasture Renovation, Spot Treatment, Over-the-Top Wiper Applications, Postemergent Weed Control (Broadcast Treatments).

### Preplant, Preemergence, Pasture Renovation

**USE INSTRUCTIONS:** This product may be applied prior to planting or emergence of forage grasses. In addition, this product may be used to control perennial pasture species listed on this label prior to re-planting.

**PRECAUTIONS, RESTRICTIONS:** If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding of livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Crops listed for treatment in this label may be planted into the treated area at any time; for other crops, wait 30 days between application and planting.

### Spot Treatment, Over-the-Top Wiper Applications

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatments or wiper application methods using rates of 2 quarts per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper application are made using rates above 2 quarts per acre, no more than 10 percent of the total pasture may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting.

### Postemergent Weed Control (Broadcast Treatments)

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of annual weeds and undesirable vegetation in pastures. For selective applications with broadcast spray equipment, apply 8 to 11 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Use of higher application rates will cause stand reductions. Do not apply more than 2 quarts per acre per year onto pasture grasses except for renovation uses (see instructions above). If replanting is needed due to severe stand reduction, applications must be made at least 30 days prior to planting any crop not listed for treatment in this label.

## 10.5 Rangelands

**TYPES OF APPLICATIONS:** Postemergence.

This product will control or suppress many annual weeds growing in perennial cool and warm-season grass rangelands.

Preventing viable seed production is key to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years should eliminate most of the viable seeds.

Grazing of treated areas should be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.

**USE INSTRUCTIONS:** Apply 8 to 11 fluid ounces of this product per acre to control or suppress many weeds, including downy brome, cheatgrass, cereal rye and jointed goatgrass in rangelands. Apply when most brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Fall applications are possible, and recommended, where spring moisture is usually limited and fall

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germination allows for good weed growth.

For medusahead, apply 11 fluid ounces of this product per acre at the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Controlled burning may be useful in eliminating the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a burn. Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses in medusahead-dominated rangelands.

**PRECAUTIONS, RESTRICTIONS:** Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off. Do not use ammonium sulfate when spraying rangeland grasses with this product. No waiting period between treatment and feeding of livestock grazing is required. Do not apply more than 2 quarts per acre per year.

## 11.0 ROUNDUP READY CROPS

The following instructions or those separately published on Monsanto Supplemental labeling include all applications which can be made onto the specified Roundup Ready crops during the complete cropping season. Do NOT combine these instructions with other recommendations made for crops that do not contain a Roundup Ready gene, in the "ANNUAL AND PERENNIAL CROPS (Alphabetical)" section of this label, unless otherwise directed in this product label, supplemental labeling or fact sheets published separately by Monsanto.

**MONSANTO COMPANY RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON CROPS DESIGNATED AS CONTAINING A ROUNDUP READY GENE.**

Applying this product to crops that are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants that do not contain the Roundup Ready gene, since severe injury or destruction will result.

The Roundup Ready designation indicates that the crop variety contains a patented gene that provides tolerance to this product. Information on Roundup Ready crops may be obtained from your seed supplier or Monsanto representative. Roundup Ready crops must be purchased from

an authorized licensed seed supplier.

**NOTE:** Roundup Ready seed, and the method of selectively controlling weeds in a Roundup Ready crop by applying glyphosate to the weeds and Roundup Ready crop are protected under several U.S. Patents, including 5,352,605 and 5,633,435. A license to use Roundup Ready seed must be obtained prior to use. Monsanto retains ownership of the gene and process technologies, and the Purchaser of the seed receives the right to use the licensed genes and technologies subject to the limited use license conditions. Seed containing the Roundup Ready trait cannot be used for research and demonstration, reverse engineering or in connection with herbicide registration. Progeny seed containing the Roundup Ready trait cannot be saved for replanting or transferred to others for replanting. Contact your Authorized Monsanto Retailer for information on obtaining a limited use license.

**For ground applications** with broadcast equipment, apply this product in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment use flat spray nozzles. Check for even distribution of spray droplets.

**For aerial applications** apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for procedures to avoid spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

For proper stewardship of aerial applications over-the-top of Roundup Ready crops, Monsanto recommends that growers and applicators read and follow all precautions and procedures contained in the use guide "A Guide to On-Target Aerial Application" available by calling 1-800-ROUNDUP (1-800-768-6387).

**ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.**

See the "MIXING" and "APPLICATION EQUIPMENT AND TECHNIQUES" sections of this label for additional directions and restrictions on the application of this product.

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tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers may result in reduced weed control or crop injury and are NOT recommended for over-the-top applications of this product unless otherwise noted in this product label, supplemental labeling or fact sheets published separately by Monsanto.

Unless otherwise directed, nonionic surfactant may be added to the spray solution for applications to Roundup Ready crops. The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Refer to individual crops within this section of this label or separately published supplemental labeling for additional precautions or restrictions. In addition, always read and carefully observe cautionary statements and other information appearing on the surfactant label.

Ammonium sulfate may be mixed with this product for applications to Roundup Ready crops. Refer to the "MIXING" section for use instructions for ammonium sulfate.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product. Follow the cleaning procedures specified on the label of the product(s) previously used. **THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.**

**NOTE:** The following recommendations are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burndown treatment of this product is recommended to control existing weeds prior to crop emergence. Some weeds, such as black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sandbur, annual morningglory, woolly cupgrass, shattercane, wild proso millet, burcucumber, and giant ragweed with multiple germination times or suppressed (stunted) weeds may require a second application of this product for complete control. The second application should be made after some regrowth has occurred and at least 10 days after a previous application of this product.

## 11.1 Canola-Roundup Ready

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence.

**DO NOT USE THIS PRODUCT ON CANOLA CONTAINING A ROUNDUP READY GENE PLANTED IN THE FOLLOWING STATES: ALABAMA, DELAWARE, FLORIDA, GEORGIA, KENTUCKY, MARYLAND, NEW JERSEY, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, VIRGINIA AND WEST VIRGINIA, EXCEPT FOR USES IN WILDLIFE FOOD PLOTS THAT WILL NOT BE HARVESTED FOR HUMAN OR LIVESTOCK FOOD.**

Maximum Allowable Combined Application Quantities Per Season	
Preplant, At-planting, Preemergence applications	44 fluid ounces per acre
Total in-crop application from emergence to 6-leaf stage	22 fluid ounces per acre

### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting canola.

### Postemergence

**USE INSTRUCTIONS:** This product may be applied postemergence to Roundup Ready Spring canola from emergence through the 6-leaf stage of development. Applications made during bolting or flowering may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

**Weeds Controlled:** For specific rates of application and instructions, refer to the "ANNUAL" and "PERENNIAL WEEDS RATE SECTIONS" in this label.

**Single Application:** Apply 11 to 16 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications that may result in temporary yellowing, delayed flowering, and/or growth reduction. Similar injury may result when applications of more than 11 fluid ounces per acre are applied after the 4-leaf stage.

**Sequential Application:** Apply 11 fluid ounces per acre to 1- to 3-leaf

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canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential applications are recommended for early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass or when controlling weeds with multiple application times.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. No more than two over-the-top broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total in-crop application should not exceed 22 fluid ounces per acre. Allow a minimum of 60 days between last application and canola harvest.

**NOTE:** The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Always read and carefully observe cautionary statements and other information appearing on the surfactant label.

## 11.2 Corn-Roundup Ready

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence (in-crop), Spot Treatment, Preharvest, Post-Harvest.

Maximum Allowable Combined Application Quantities Per Season	
Combined total per year for all applications	5.3 quarts per acre
Preplant, At-planting, Preemergence applications	3.3 quarts per acre
In-crop applications	
Roundup Ready Corn from emergence through V8 or 30 inches	44 fluid ounces per acre (22 fluid ounces per acre per application)
Roundup Ready Corn 2 from emergence through 48 inches	64 fluid ounces per acre (32 fluid ounces per acre per application)
Preharvest application	22 fluid ounces per acre See PRECAUTIONS, RESTRICTIONS section for Preharvest applications.

### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in a tank-mixture before, during or after planting corn.

**TANK MIXTURES:** This product may be tank mixed with Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, Lariat, Lasso or Micro-Tech at 50 to 100 percent of labeled rate. Refer to the specific product label and observe all precautions and limitations on the label for any preemergence herbicide application, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines—the more restrictive requirements apply.

**NOTE:** For maximum weed control, a postemergence (in-crop) application of this product should be applied following the use of less than labeled rates of the preemergence residual products listed above.

### Postemergence (in-crop)

**USE INSTRUCTIONS:** This product may be applied alone or in tank-mixtures postemergence (in-crop) to corn hybrids designated as Roundup Ready Corn or Roundup Ready Corn 2. When applied as directed, this product controls labeled annual grass and broadleaf weeds. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. A postemergent application of 16 to 22 fluid ounces per acre of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop, generally 4 inch tall weeds or less. If new flushes of weeds occur, a sequential application of this product at 16 to 22 fluid ounces per acre will control the labeled grasses and broadleaf weeds.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label booklet for general precautionary instructions for use in Roundup Ready Crops. Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage or grain. The use of additional surfactant or other additives, including fertilizers and micro-nutrients in the spray solution may result in crop injury and reduced yield and is not recommended for over-the-top applications of this product to Roundup Ready Corn or Roundup Ready Corn 2, unless otherwise directed in supplemental labeling or fact

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sheets published separately by Monsanto.

### Specific use instructions:

• **Roundup Ready Corn:** This product may be applied over-the-top broadcast or with drop nozzles postemergence to Roundup Ready Corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first. Drop nozzles are recommended for optimum spray coverage and weed control when corn height is 24 to 30 inches.

**PRECAUTIONS, RESTRICTIONS:** Single in-crop applications of this product are not to exceed 22 fluid ounces per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 44 fluid ounces per acre per growing season.

• **Roundup Ready Corn 2:** This product may be applied over-the-top broadcast or with drop nozzles postemergence to Roundup Ready Corn 2 from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches (free standing), whichever comes first. Drop nozzles are recommended for optimum spray coverage and weed control when corn height is 24 to 30 inches. For corn heights 30 to 48 inches (free standing), apply this product only using ground application equipment equipped with drop nozzles aligned to avoid spraying into the whorls of the corn plants.

**PRECAUTIONS, RESTRICTIONS:** Single in-crop applications of this product should not exceed 32 fluid ounces per acre. Sequential in-crop applications of this product from emergence through 48 inches in height must not exceed a total of 64 fluid ounces per acre per growing season.

**Postemergence tank mixtures:** This product may be applied in tank mixture with Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, and Micro-Tech at 50 to 100 percent of their labeled rate. This product may be applied in tank mixture with Permit<sup>®</sup>, Yukon<sup>™</sup> and atrazine at their labeled rates. Refer to the specific product label and observe all precautions and limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines—the more restrictive requirements apply. The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water

may increase the performance of this product under hard water conditions, drought conditions or when tank mixed with Degree Xtra, Harness Xtra, Harness Xtra 5.6L, Bullet, Micro-Tech or Atrazine herbicides.

Tank-Mix Partner	Maximum Height of Corn For Application
Degree Degree Xtra Harness Harness Xtra Harness Xtra 5.6 L	11 inches
Bullet* Micro-Tech*	5 inches
Permit Yukon	30 inches
Atrazine	12 inches

\*Bullet and Micro-Tech are not registered for use as a postemergence application in Texas.

### Preharvest

**USE INSTRUCTIONS:** This product can be applied preharvest at use rates up to 22 fluid ounces per acre. Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest or feeding of corn stover or grain. In Roundup Ready Corn 2, a preharvest application may only be made if the combined total of previously applied over-the-top or drop nozzle applications does not exceed 44 fluid ounces of this product per acre.

### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

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PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

### 11.3 Cotton-Roundup Ready

TYPES OF APPLICATIONS: Preplant, Preemergence, At-Planting, Selective Equipment (hooded sprayers), Preharvest.

PRECAUTIONS, RESTRICTIONS: See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops.

#### Preplant, Preemergence, At-Planting

USE INSTRUCTIONS: This product may be applied before, during or after planting cotton.

#### Selective Equipment (Hooded sprayers)

USE INSTRUCTIONS: This product may be applied using precision hooded sprayers at rates up to 22 fluid ounces per acre per application to Roundup Ready cotton through layby. For best results, make applications while weeds are small (less than 3 inches).

PRECAUTIONS, RESTRICTIONS: See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

#### Preharvest

USE INSTRUCTIONS: This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20 percent boll crack. Up to 44 fluid ounces of this product may be applied using either aerial or ground spray equipment. NOTE: This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between application and harvest of cotton. Do not apply this product to cotton grown for seed, as a reduction in germination or vigor may occur. DO NOT ADD SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR APPLICATIONS MADE AT A PREHARVEST TIMING IN COTTON.

ATTENTION: USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL

DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON, HOWEVER, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.

### 11.4 Soybeans-Roundup Ready

TYPES OF APPLICATIONS: Preplant, Preemergence, At-Planting, Postemergence, Preharvest, Post-Harvest.

Maximum Allowable Combined Application Quantities Per Season	
Combined total per year for all applications	5.3 quarts per acre
Preplant, At-planting, Preemergence applications	3.3 quarts per acre
Total in-crop applications from cracking throughout flowering	64 fluid ounces per acre
Maximum preharvest application rate	22 fluid ounces per acre

PRECAUTIONS/RESTRICTIONS: See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops.

#### Preplant, Preemergence, At-Planting

USE INSTRUCTIONS: This product may be applied before, during or after planting soybeans.

#### Postemergence

USE INSTRUCTIONS: When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Applications of this product can be made in Roundup Ready soybeans from emergence (cracking) throughout flowering. Refer to the "ANNUAL

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**WEEDS RATE SECTION** in this label for rate recommendations for specific annual weeds. In general, an initial application of 22 fluid ounces per acre on 2 to 8 inch tall weeds is recommended. Weeds will generally be 2 to 8 inches tall, 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 44 fluid ounces per acre in any single in-crop application for control of annual weeds and where heavy weed densities exist.

A 22- to 44-fluid-ounce per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: Bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, mare's tail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpet creeper, swamp smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this may be necessary to control late flushes of weeds. **IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY SOYBEAN CROP.** To control giant ragweed, it is recommended that 22 fluid ounces per acre of this product be applied when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for a sequential application.

**PRECAUTIONS, RESTRICTIONS:** The combined total application from crop emergence through harvest must not exceed 64 fluid ounces per acre. The maximum rate for any single in-crop application is 44 fluid ounces per acre. The maximum combined total of this product that can be applied during flowering is 44 fluid ounces per acre.

**NOTE:** The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Always read and carefully observe cautionary statements and other information appearing on the surfactant label.

#### Preharvest

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans. Up to 22 fluid ounces per acre of this prod-

uct can be applied by aerial or ground application.

**PRECAUTIONS, RESTRICTIONS:** Care should be taken to avoid excessive seed shatter loss due to ground application equipment. Allow a minimum of 14 days between final application and harvest of soybean grain or feeding of soybean grain, forage or hay.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied after harvest of Roundup Ready soybeans. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

## 12.0 NON-CROP USES AROUND THE FARMSTEAD

**TYPES OF APPLICATIONS:** General Weed Control, Trim-and-Edge, Greenhouse/Shadehouse, Chemical Mowing, Cut Slump, Habitat Management.

### 12.1 General Weed Control and Trim-and-Edge

**USE INSTRUCTIONS:** This product may be used to control annual weeds, perennial weeds and woody brush which are found in any part of the farmstead, including building foundations, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 22 fluid ounces per acre of this product when weeds are less than 6 inches tall, 32 fluid ounces per acre when weeds are 6 to 12 inches tall and 44 fluid ounces per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 44 fluid ounces to 3.3 quarts per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, hand-

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guns or other high-volume spray-to-wet applications, see the "ANNUAL WEEDS—HAND-HELD OR HIGH VOLUME EQUIPMENT" section of this label for recommended rates.

Arsenal®	Plateau®
Banvel/Clarity	Princep DF
Barricade® 65WG	Princep Liquid
Diuron	Ronstar 50 WP
Endurance®	Sahara®
Escort®	Simazine
Karmex DF	Surflan
Krovar I DF	Tetar®
Oust	Vanquish®
Pendulum® 3.3 EC	2,4-D
Pendulum WDG	

This product plus dicamba tank mixtures may not be applied by air in California.

## 12.2 Greenhouse/ Shadehouse

This product may be used to control weeds in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

## 12.3 Chemical Mowing

**USE INSTRUCTIONS:** This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 4 fluid ounces of this product per acre when treating Kentucky bluegrass. Use 4 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, bahiagrass or quackgrass covers. Use 11 fluid ounces of this product per acre when treating Bermudagrass. Use 44 fluid ounces of this product per acre when treating torpedograss or paragrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

**PRECAUTIONS, RESTRICTIONS:** Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

## 12.4 Cut Stump

**TYPES OF APPLICATION:** Treating cut stumps in any non-crop site listed on this label.

**USE INSTRUCTIONS:** This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder	Reed, giant
Eucalyptus	Saltcedar
Madrone	Sweetgum
Oak	Tan oak
Pepper, Brazilian	Willow
Pine, Austrian	

**PRECAUTIONS, RESTRICTIONS:** Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

## 12.5 Habitat Management

**TYPES OF USES:** Habitat Restoration and Maintenance, Wildlife Food Plots.

**Habitat Restoration and Maintenance**

**USE INSTRUCTIONS:** This product may be used to control exotic and

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other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement.

#### Wildlife Food Plots

**USE INSTRUCTIONS:** This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species, including Roundup Ready canola, may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage. For specific product application instructions in Roundup Ready canola wildlife food plots, see the "Canola-Roundup Ready" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Do not process treated Roundup Ready canola seed from wildlife food plots for food or domestic livestock feed. Do not graze or feed treated Roundup Ready canola from wildlife food plots to domestic livestock. There are no rotational restrictions for planting any wildlife food species or for allowing native species to repopulate the area following applications of this product.

## 13.0 INDUSTRIAL, TURF AND ORNAMENTAL

Detailed instructions follow alphabetically, by site.

Unless otherwise specified, applications may be made to control any weeds listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATES SECTIONS" of this label. Refer also to the "Selective Equipment" section.

### 13.1 Cut Stump

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species, some of

which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder	Saltcedar
Eucalyptus	Sweetgum
Madrone	Tan oak
Oak	Willow
Reed, giant	

DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

### 13.2 General Non-Crop Areas, Industrial Sites

Use in areas such as airports, apartment complexes, ditch banks, dry ditches, dry canals, fencerows, golf courses, industrial sites, lumber yards, manufacturing sites, office complexes, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, substations, warehouse areas, other public areas, and similar industrial and non-crop sites.

#### General Weed Control, Trim-and-Edge, Bare Ground

This product may be used in general non-crop areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in noncrop sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing

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in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for use on such non-crop sites. Refer to these product's labels for approved non-crop sites and application rates.

Arsenal	Pendulum 3.3 EC
Clarity	Pendulum WDG
Barricade 65WG	Plateau
Diuron	Princep DF
Endurance	Princep Liquid
Escort	Ronstar® 50WP
Garlon™ 3A	Sahara
Garlon 4	Simazine
Karmex DF	Surflan
Krovar I DF	Telar®
Manage®	Vanquish
Oust	2,4-D

This product plus dicamba tank mixtures may not be applied by air in California.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 22 to 44 fluid ounces of this product plus 2 to 4 ounces of Oust per acre.

Bahiagrass	Fescue, tall
Bermudagrass	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Quackgrass
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

**Chemical Mowing - Perennials**

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 4 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 4 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

**Chemical Mowing - Annuals**

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 3 to 4 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

**Bromus Species and Medusahead in Pastures and Rangelands**

**Bromus species.** This product may be used to treat downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*) and cheatgrass (*Bromus setinus*) found in industrial, rangeland and pasture sites. Apply 6 to 11 fluid ounces of this product per acre on a broadcast basis.

For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses can become reestablished on the site.

**Medusahead.** To treat medusahead, apply 11 fluid ounces of this product per acre as soon as plants are actively growing, and prior to the 4-leaf stage. Applications may be made in the fall or spring.

Applications to brome and medusahead may be made using ground or aerial equipment. Aerial applications for these uses may be made using

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fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre. When applied as directed in this label, there are no grazing restrictions.

#### **Dormant Turfgrass**

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant Bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring greenup.

Apply 6 to 44 fluid ounces of this product per acre. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 11 fluid ounces per acre may result in injury or delayed greenup in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "Roadsides" section of this label, which gives rates for dormant Bermudagrass and bahiagrass treatments.

#### **Actively Growing Bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. DO NOT apply more than 11 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "Roadsides" section of this label, which gives rates for actively growing Bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

#### **Turfgrass Renovation, Seed, Sod Production**

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as

Bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

## **13.3 Habitat Management**

#### **Habitat Restoration and Management**

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

#### **Wildlife Food Plots**

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

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### 13.4 Injection and Frill (Woody Brush and Trees)

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 0.04 fluid ounce (1 mL) of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50- to 100-percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100-percent concentration of this product. For best results, application should be made during periods of active growth and after full leaf expansion. This product will control many species, some of which are listed below:

Control  
Oak  
Poplar  
Sweetgum  
Sycamore

Partial Control  
Blackgum  
Dogwood  
Hickory  
Maple, red

### 13.5 Ornamentals, Plant Nurseries, and Christmas Trees

#### Post-Directed, Trim-and-Edge

This product may be used as a post-directed spray around established woody ornamental species such as arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, Douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce and yew. This product may also be used to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting.

Desirable plants may be protected from the spray solution by using

shields or coverings made of cardboard or other impermeable material. UNLESS OTHERWISE DIRECTED, THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

#### Site Preparation

This product may be used prior to planting any ornamental, nursery or Christmas tree species.

#### Wiper Applicators

This product may be used through wick or other suitable wiper applicators to control or partially control undesirable vegetation around established eucalyptus or poplar trees. See the "Selective Equipment" section of this label for further information about the proper use of wiper applicators.

#### Greenhouse/Shadehouse

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

### 13.6 Parks, Recreational and Residential Areas

This product may be used in parks, recreational and residential areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around trees, fences, and paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation. This product may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

All of the instructions in the "General Non-Crop Areas and Industrial Sites" section apply to park and recreational areas.

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## 13.7 Railroads

All of the instructions in the "General Non-Crop Areas And Industrial Sites" section apply to railroads.

### Bare Ground, Ballast and Shoulders, Crossings, Spot Treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites, for ballast, shoulder, spot, bare ground and crossing treatments:

Arsenal	Krovar 1 DF
Clarity	Oust
Diuron	Sahara
Escort	Spine®
Garlon 3A	Telar
Garlon 4	Vanquish
Hyvar™ X	2,4-D

### Brush Control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 2.5 to 7 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a 0.7- to 1.5-percent solution of this product when using high-volume spray-to-wet applications. Apply a 4- to 7-percent solution of this product when using low volume directed sprays for spot treatment. This product may be mixed with the following products for enhanced control of woody brush and trees:

Arsenal	Garlon 4
Escort	Tordon® X
Garlon 3A	

### Bermudagrass Release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 11 to 32 fluid ounces of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank-mixed with Oust. If tank-mixed, use no more than 11 to 32 fluid ounces of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Blackberry	Johnsongrass
Bluestem, silver	Poorjoe
Broomsedge	Raspberry
Dallisgrass	Trumpet creeper
Dewberry	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may occur.

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## 13.8 Roadsides

All of the instructions in the "General Non-Crop Areas And Industrial Sites" section apply to roadsides.

### Shoulder Treatments

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

### Guardrails and Other Obstacles to Mowing

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

### Spot Treatment

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for such non-crop treatments:

Clarity	Princep DF
Diuron	Princep Liquid
Endurance	Ronstar 50WP
Escort	Sahara
Krovar I DF	Simazine
Oust	Surflan
Outrider	Telar
Pendulum 3.3 EC	Vanquish
Pendulum WDG	2,4-D

See the "General Non-Crop Areas And Industrial Sites" section of this label for general instructions for tank mixing.

### Release of Bermudagrass or Bahiagrass

#### Dormant Applications

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant

Bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring green-up. This product may also be tank-mixed with Outrider or Oust for residual control. Tank mixtures of this product with Oust may delay green-up.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 6 to 44 fluid ounces of this product in a tank mixture with 0.75 to 1.3 ounces Outrider herbicide per acre. Read and follow all label directions for Outrider herbicide.

Apply 6 to 44 fluid ounces of this product per acre alone or in a tank mixture with 0.25 to 1 ounce per acre of Oust. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add no more than 1 ounce of Oust per acre on Bermudagrass and no more than 0.5 ounce of Oust per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

#### Actively Growing Bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 11 to 32 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank mixed with Outrider for control or partial control of Johnsongrass and other weeds listed in the Outrider label. Use 6 to 22 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider. Use the higher rates of both products for control of perennial weeds or

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annual weeds greater than 6 inches in height.

This product may be tank-mixed with Oust. If tank-mixed, use no more than 11 to 22 fluid ounces of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Bluestem, silver	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Trumpet creeper
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not recommended, since severe injury may occur.

### Actively Growing Bahiagrass

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 2 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

This product may be used for control or partial control of Johnsongrass and other weeds listed on the Outrider label in actively growing bahiagrass. Apply 1 to 3.3 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider per acre. Use the higher rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well-established bahiagrass.

A tank mixture of this product plus Oust may be used. Apply 4 fluid ounces of this product plus 0.25 ounce of Oust per acre 1 to 2 weeks following an

initial spring mowing. Make only one application per year.

## 14.0 ANNUAL WEEDS RATE SECTION

When water carrier volumes are between 16 and 40 gallons per acre for ground applications and between 6 and 15 gallons per acre for aerial applications, the following use rates will control the annual weeds listed in the table below:

- 22 fluid ounces per acre—grass and broadleaf annual weeds less than 6 inches in height or circumference and vines less than 3 inches in length.
- 32 fluid ounces per acre—grass and broadleaf annual weeds 6 to 12 inches in height or circumference and vines 3 to 6 inches in length.
- 44 fluid ounces per acre—grass and broadleaf annual weeds greater than 12 inches in height or circumference and vines greater than 6 inches in length.

WHEN WATER CARRIER VOLUMES ARE BETWEEN 3 AND 15 GALLONS PER ACRE FOR GROUND APPLICATIONS AND BETWEEN 3 AND 5 GALLONS PER ACRE FOR AERIAL APPLICATIONS, USE THE RATES SPECIFIED FOR INDIVIDUAL WEEDS AS FOLLOW IN THE "ANNUAL WEEDS RATE TABLE" (Alphabetically by Species).

Apply to actively growing annual weeds. Annual weeds are generally easiest to control when they are small.

Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

Maximum size refers to the maximum plant height, length of runners for vines or circumference of rosette plants in inches.

Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.

For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

This product may be used up to 44 fluid ounces per acre where heavy weed densities exist.

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## ANNUAL WEEDS RATE TABLE

WEED SPECIES	RATE (fluid ounces per acre)				
	11	16	22	27	32
	Maximum size (in inches)				
Ammannia, purple	3	6	12	-	18
Annoda, spurred	-	2	3	5	8
Barley	18	18+	-	-	-
Barnyardgrass	-	3	6	7	9
Bassia, fivehook	-	-	6	-	-
Beggarweed, Florida	-	5	8	-	-
Bittercress	12	20	-	-	-
Bluegrass, annual	10	-	-	-	-
Bluegrass, bulbous	6	-	-	-	-
Brome, downy 1.7	6	12	-	-	-
Brome, Japanese	6	12	24	-	-
Browntop panicum	6	8	12	-	24
Buckwheat, wild 1	-	1	2	-	-
Burcucumber	-	6	12	-	18
Buttercup	12	20	-	-	-
Carolina geranium	-	-	4	-	9
Carpetweed	-	6	12	-	-
Cheat 2	6	20	-	-	-
Chervil	20	-	-	-	-
Chickweed	-	12	18	-	-
Cocklebur	12	18	24	-	36
Copperteaf, hophornbeam	-	2	4	-	6
Copperteaf, Virginia	-	2	4	-	6
Coreopsis, plains	-	6	12	-	18
Corn, volunteer	6	12	20	-	-
Corn speedwell	12	-	-	-	-
Craggrass	3	6	12	-	-
Crowfootgrass	-	-	6	-	12
Cutleaf evening primrose	-	-	3	-	6
Devilsclaw (unicorn plant)	-	3	6	-	-
Dwarf dandelion	12	-	-	-	-
Eastern mangrass	8	12	-	-	-
Eclipta	-	4	8	12	-

Fall panicum	4	-	6	-	12
Falsedandelion	-	20	-	-	-
Fiddleneck	-	6	12	-	-
Field pennycress	6	12	-	-	-
Filaree	-	-	6	-	12
Fleabane, annual	6	20	-	-	-
Fleabane, hairy (Conyza bonariensis)	-	-	6	-	10
Fleabane, rough	3	6	12	-	-
Florida pusley	-	-	4	-	6
Foxtail, giant, bristly, yellow	6	12	20	-	-
Foxtail, Carolina	10	-	-	-	-
Foxtail, green	12	-	-	-	-
Goatgrass, jointed	6	12	-	-	-
Goosegrass	-	3	6	-	12
Grain sorghum (milo)	6	12	20	-	-
Groundcherry	-	3	6	-	9
Groundsel, common	-	6	10	-	-
Hemp sesbania	-	2	4	6	8
Henbit	-	-	6	-	12
Horseweed/ Maretail (Conyza canadensis)	-	6	12	-	18
Itchgrass	6	8	12	-	18
Jimsonweed	-	-	12	-	18
Johnsongrass, seedling	6	12	18	-	24
Junglerice	-	3	6	7	9
Knotweed	-	-	6	-	12
Kochia 4	-	3 to 6	12	-	-
Lambsquarters	-	6	12	-	20
Little barley	6	12	-	-	-
London rocket	6	-	24	-	-
Mayweed	-	2	6	12	18
Morningglory, annual (Ipomoea spp)	-	-	3	-	6
Mustard, blue	6	12	18	-	-
Mustard, fansy	6	12	18	-	-

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# ANNUAL WEEDS RATE SECTION 94

ANNUAL WEEDS RATE TABLE

WEED SPECIES	RATE (fluid ounces per acre)				
	11	16	22	27	32
	Maximum size (in inches)				
Mustard, tumble	6	12	18	-	-
Mustard, wild	6	12	18	-	-
Nightshade, black	-	4	6	-	12
Nightshade, hairy	-	4	6	-	12
Oats	3	6	18	-	-
Pigweed species	-	12	18	24	-
Prickly lettuce	-	6	12	-	-
Purslane	-	-	3	-	6
Ragweed, common	-	6	12	-	18
Ragweed, giant	-	6	12	-	18
Red rice	-	-	4	-	-
Rye, volunteer/cereal <sup>2</sup>	6	18	18+	-	-
Ryegrass	-	-	6	-	12
Sandbur, field	6	12	-	-	-
Sandbur, longspine	6	12	-	-	-
Shattercane	6	12	20	-	-
Shepherd's-purse	6	12	-	-	-
Sicklepod	-	2	4	-	8
Signalgrass, broadleaf	-	3	6	7	9
Smartweed, ladythumb	-	-	6	-	9
Smartweed, Pennsylvania	-	-	6	-	9
Sowthistle, annual	-	-	6	-	12
Spanishneedles	-	-	6	-	12
Speedwell, purslane	12	-	-	-	-
Sprangletop	6	12	20	-	-
Spurge, prostrate	-	6	12	-	-
Spurge, spotted	-	6	12	-	-
Spurry, umbrella	6	-	-	-	-
Slinkgrass	-	12	-	-	-
Sunflower	12	18	-	-	-
Swinecress	-	5	12	-	-

Tea-weed/Prickly sida	-	2	4	-	6
Texas panicum	6	8	12	-	24
Thistle, Russian <sup>5</sup>	-	6	12	-	-
Velvetleaf	-	-	6	-	12
Virginia pepperweed	-	18	-	-	-
Waterhemp	-	-	6	-	12
Wheat <sup>2</sup>	6	12	18	-	-
Wheat (overwintered)	-	6	12	-	18
Wild oats	3	6	18	-	-
Wild proso millet	-	6	12	-	18
Witchgrass	-	12	-	-	-
Woolly cupgrass	-	6	12	-	-
Yellow rocket	-	12	20	-	-

<sup>1</sup> For control of downy brome in no-till systems, use 16 fluid ounces per acre.

<sup>2</sup> Performance is better if application is made before this weed reaches the boot stage of growth.

<sup>3</sup> Use 16 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 22 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 22 fluid ounces followed by 22 fluid ounces of this product per acre.

<sup>4</sup> Do not treat Kochia in the button stage.

<sup>5</sup> Control of Russian thistle may vary based on environmental conditions and spray coverage. Whenever possible, a tank mixture with 2,4-D as described below may improve control.

## 14.1 Annual Weeds—Tank Mixtures with 2,4-D, Dicamba or Tordon 22K

8 to 11 fluid ounces of this product plus 0.25 pound of dicamba or 0.5 pound of 2,4-D or 1 to 2 fluid ounces of Tordon 22K per acre will control the following weeds with the maximum height or length indicated: 6 inches—prickly lettuce, mare's tail/horseweed, morning glory, Kochia (dicamba only) wild buckwheat (Tordon 22K only); 12 inches—cocklebur, lambsquarters, pigweed, Russian thistle (2,4-D only).

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## ANNUAL WEEDS RATE SECTION 96

11 fluid ounces of this product plus 0.5 pound of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Ensure that the specific product is registered for application at the desired site. Some crop injury may occur if dicamba or Tordon 22K is applied within 45 days of planting.

DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.

### 14.2 Annual Weeds—Hand-Held or High-Volume Equipment

For control of weeds listed in the "ANNUAL WEEDS RATE SECTION", apply a 0.4-percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 0.7-percent solution.

For best results, use a 1.5-percent solution on harder-to-control perennials, such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods that result in less than complete coverage, use a 4-percent solution for annual and perennial weeds and a 4- to 7-percent solution for woody brush and trees.

### 14.3 Annual Weeds—Tank Mixtures with Atrazine for Fallow and Reduced Tillage Systems

For use only in Colorado, Kansas, Nebraska, Oklahoma, Oregon, South Dakota, and Washington. In Oregon and Washington, do not exceed 1 pound of atrazine per acre.

16 to 20 fluid ounces of this product plus 1 to 2 pounds of atrazine per acre will control the following weeds: barnyardgrass (requires 20 fluid ounces for control), downy brome, green foxtail, lambsquarters, prickly lettuce, tansy mustard, pigweed, field sandbur, slinkgrass, Russian thistle,

volunteer wheat, witchgrass and kochia (add 0.12 pound of dicamba for control). Ensure that the specific atrazine product is registered for application at the desired site.

## 15.0 PERENNIAL WEEDS RATE SECTION

Apply to actively growing perennial weeds.

NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage.

Best results are obtained when soil moisture is adequate for active weed growth.

PERENNIAL WEEDS RATE TABLE  
(Alphabetically by Species)

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Alfalfa	1-1.5	3-10	1.5%
Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.			
Alligatorweed	3	3-20	1%
For partial control, apply when most of the plants are in bloom. Repeat applications will be required to achieve control.			
Anise (fennel) <sup>1</sup>	—	—	1-1.5%
Apply as a spray-to-wet treatment.			
Bahiagrass <sup>2</sup>	2-3.3	3-20	1.5%
Bentgrass	1	10-20	1.5%

For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results.

## PERENNIAL WEEDS RATE SECTION 97

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# PERENNIAL WEEDS RATE SECTION 98

Weed Species	Rate (qt/a)	Water Volume (gpa)	Mixing Solution
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Bermudagrass	2-3.3	3-20	1.5%
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For control, apply 3.3 quarts of this product per acre. For partial control, apply 64 fluid ounces per acre. Treat when Bermudagrass is actively growing and seed-heads are present. Retreatment may be necessary to achieve control.

Bermudagrass, water (knotgrass)	0.7-1	5-10	1.5%
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Apply 32 fluid ounces of this product in 5 to 10 gallons of water per acre. Apply when water Bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

Fall applications only: Apply 22 fluid ounces of this product in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water Bermudagrass that is 12 to 18 inches in length.

This product is not registered in California for use on water Bermudagrass.

Bindweed, field	0.4-3.3	3-20	1.5%
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Do not treat field bindweed under drought stress as good soil moisture is necessary for active growth.

For control, apply 2.5 to 3.3 quarts of this product per acre west of the Mississippi River and 2 to 2.5 quarts east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Also for control, apply 44 fluid ounces of this product plus 0.5 pound of dicamba in 10 to 20 gallons of water per acre. Do not apply by air.

For suppression on irrigated agricultural land, apply 22 to 44 fluid ounces of this product plus 1 pound of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 5 to 18 inches in length.

In California only, apply 22 fluid ounces to 3.3 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 22 fluid ounces of this product in 3 to 10 gallons of water per

acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.

Bluegrass, Kentucky	0.7-1.5	3-40	1.5%
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Blueweed, Texas	2-3.3	3-40	1.5%
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Apply 2.5 to 3.3 quarts of this product per acre west of the Mississippi River and 2 to 2.5 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Brackenfern	2-3	3-40	1%
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Apply to fully expanded fronds that are at least 18 inches long.

Bromegrass, smooth	0.7-1.5	3-40	1.5%
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Bursage, woolly-leaf	—	3-20	1.5%
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For control, apply 44 fluid ounces of this product plus 1/2 pound of dicamba per acre.

For partial control, apply 22 fluid ounces of this product plus 1/4 pound of dicamba per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

Canarygrass, reed <sup>2</sup>	1.5-2	3-40	1.5%
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Cattail <sup>2</sup>	2-3.3	3-40	1.5%
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Clover, red, white <sup>1</sup>	2-3.3	3-20	1.5%
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Also for control, apply 11 to 22 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.

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# PERENNIAL WEEDS RATE SECTION 100

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
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Cogongrass 2-3.3 10-40 1.5%

Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to achieve control.

Dallisgrass<sup>2</sup> 2-3.3 3-20 1.5%

Dandelion<sup>1</sup> 2-3.3 3-40 1.5%

Also for control, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre.

Dock, curly<sup>1</sup> 2-3.3 3-40 1.5%

Also for control, apply 11 to 22 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.

Dogbane, hemp 3 3-40 1.5%

Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall.

For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

Fescue (except tall)<sup>2</sup> 2-3.3 3-20 1.5%

Fescue, tall 0.7-2 3-40 1.5%

Apply 64 fluid ounces of this product per acre when most plants have reached boot-to-early seedhead stage of development.

Fall applications only: Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 11 fluid ounces per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.

Guineagrass 1.5-2 3-40 1%

Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment.

In Texas and ridge of Florida, use 44 fluid ounces for control. In the flatwoods region of Florida, 64 fluid ounces is required for control.

Horsenettle<sup>1</sup> 2-3.3 3-20 1.5%

Horseradish 3 3-40 1.5%

Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Iceplant<sup>1</sup> --- --- 1.5-2%

Thorough coverage is necessary for best control.

Jerusalem artichoke<sup>1</sup> 2-3.3 3-20 1.5%

Johnsongrass 0.4-2 3-40 1%

In annual cropping systems apply 22 to 44 fluid ounces of this product per acre. Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage (no-till) is not practiced, apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using 22 fluid ounces of this product per acre.

For burndown of Johnsongrass, apply 11 fluid ounces of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot treatment (partial control or suppression)—Apply a 0.7-percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.

Kikuyugrass 1.5-2 3-40 1.5%

Spray when most kikuyugrass is at least 8 inches in height (3- or 4-leaf stage of growth). Allow 3 or more days after application before tillage.

Knapweed 3 3-40 1.5%

Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Lantana --- --- 1%

Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

Lespedeza<sup>1</sup> 2-3.3 3-20 1.5%

# PERENNIAL WEEDS RATE SECTION 101

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# PERENNIAL WEEDS RATE SECTION 102

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
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Milkweed, common 2 3-40 1.5%

Apply when most plants have reached the late bud to flower stage of growth.

Muhly, wirestem 0.7-1.5 3-40 1.5%

Use 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or non-crop areas. Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.

Mullein, common<sup>1</sup> 2-3.3 3-20 1.5%

Napiergrass<sup>2</sup> 2-3.3 3-20 1.5%

Nightshade, silverleaf 1.5 3-10 1.5%

Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.

Nutsedge, purple or yellow 0.4-2 3-40 1-1.5%

Apply 64 fluid ounces of this product per acre or apply a 1- to 1.5-percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets that have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential applications: 22 to 44 fluid ounces of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3- to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For partial control of existing plants, apply 11 to 44 fluid ounces of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.

Orchardgrass 0.7-1.5 3-40 1.5%

Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Orchardgrass sods going to no-till corn: Apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

Pampasgrass — — 1-1.5%

Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

Paragrass<sup>2</sup> 2-3.3 3-20 1.5%

Phragmites 2-3.3 10-40 1-1.5%

For partial control and best results, treat during late summer or fall when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to achieve control. Visual control symptoms will be slow to develop.

Poison hemlock — — 1-1.5%

For hand held, apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Thorough coverage is necessary for best control.

Pokeweed, common 1 3-40 1.5%

Apply to actively growing plants up to 24 inches tall.

Quackgrass 0.7-2 3-40 1.5%

In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 44 fluid ounces of this product. Do not tank mix with residual herbicides when using the 22-fluid-ounce rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.

# PERENNIAL WEEDS RATE SECTION 103

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# PERENNIAL WEEDS RATE SECTION 104

Weed Species	Rate OT/A	Water Volume (GPA)	Hand-Held % Solution
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In pastures, sods or non-crop areas where deep tillage does not follow application, Apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 5 inches tall.

Redvine	0.5-1.5	5-10	1.5%
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For suppression, apply 16 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 44 fluid ounces per acre. Apply recommended rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Reed, giant	—	—	1.5%
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Best results are obtained when applications are made in late summer to fall.

Ryegrass, perennial	0.7-2	3-40	1%
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In annual cropping systems apply 22 to 44 fluid ounces of this product per acre. Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage (no-till) is not practiced, apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using 22 fluid ounces of this product per acre.

Smartweed, swamp	2-3.3	3-40	1.5%
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Also for control, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.

Sowthistle, perennial	1.5-2	3-40	1.5%
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

Spurge, leafy	—	3-10	1.5%
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For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.

Starthistle, yellow	1.5	10-40	1.5%
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Best results are obtained when applications are made during the rosette, bolting and early flower stages.

Sweet potato, wild	—	—	1.5%
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For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

Thistle, artichoke	—	—	1.5%
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For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

Thistle, Canada	1.5-2	3-40	1.5%
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression in the spring, apply 22 fluid ounces of this product, or 11 fluid ounces of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

Timothy <sup>2</sup>	1.5-2	3-40	1.5%
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Torpedograss	2.5-3.3	3-40	1.5%
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For partial control, apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to achieve control. Fall treatments must be applied before frost.

Trumpet creeper	1.5	5-10	1.5%
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For partial control, apply in late September or October, to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Vaseygrass <sup>2</sup>	2-3.3	3-20	1.5%
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Velvetgrass <sup>2</sup>	2-3.3	3-20	1.5%
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# PERENNIAL WEEDS RATE SECTION 105

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**WOODY BRUSH AND TREES 106**

Wheatgrass, western<sup>1</sup> 1.5-2 3-40 1.5%

<sup>1</sup> Apply when most plants have reached the early bud stage of growth.

<sup>2</sup> Apply when most plants have reached the early heading stage of growth.

## 16.0 WOODY BRUSH AND TREES RATE SECTION

(Alphabetically by Species)

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Unless otherwise directed, apply broadcast treatments in 3 to 40 gallons of water per acre. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

**WOODY BRUSH AND TREES RATE TABLE**  
(Alphabetically by Species)

Weed Species	Rate (QT/A)	Hand-Held % Solution
Alder	2-3	1%
Ash <sup>1</sup>	1.5-3.3	1-1.5%
Aspen, quaking	1.5-2	1%
Bearnat (Bearclover) <sup>1</sup>	1.5-3.3	1-1.5%
Beech <sup>2</sup>	1.5-3.3	1-1.5%

Birch	1.5-2	1%
Blackberry	2-3	1%

Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.7-percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 2 to 2.5 quarts of this product in 10 to 40 gallons of water per acre.

Blackgum	1.5-3.3	1-1.5%
Bracken	1.5-3.3	1-1.5%
Broom, French, Scotch	—	1-1.5%
Buckwheat, California <sup>1,2</sup>	—	1-1.5%
Cascara <sup>1</sup>	1.5-3.3	1-1.5%
Catsclaw <sup>1</sup>	—	1%
Ceanothus <sup>1</sup>	1.5-3.3	1-1.5%
Chamise <sup>2</sup>	—	1%

Cherry: bitter, black, pin	1.5-2	1%
Coyote Brush	—	1-1.5%

Apply when at least 50 percent of the new leaves are fully developed.

Dogwood <sup>1</sup>	1.5-3.3	1-1.5%
Elderberry	1.5-2	1%
Elm <sup>1</sup>	1.5-3.3	1-1.5%
Eucalyptus	—	1.5%

For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed eucalyptus plants.

Florida holly (Brazilian Peppertree) <sup>1</sup>	1.5-3.3	1-1.5%
Gorse <sup>1</sup>	1.5-3.3	1-1.5%
Hasardia <sup>1,2</sup>	—	1-1.5%

**WOODY BRUSH AND TREES 107**

2002

# WOODY BRUSH AND TREES 108

Woody Species	Rate (qt/A)	Hand-Mixed % Solution
Hawthorn	1.5-2	1%
Hazel	1.5-2	1%
Hickory <sup>1</sup>	1.5-3.3	1-1.5%
Honeysuckle	2-3	1%
Hornbeam, American <sup>1</sup>	1.5-3.3	1-1.5%
Kudzu	2.5-3.3	1.5%
Repeat applications may be required to achieve control.		
Locust, black <sup>1</sup>	1.5-3	1-1.5%
Madrone resprouts <sup>1</sup>	—	1.5%
Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.		
Manzanita <sup>1</sup>	1.5-3.3	1-1.5%
Maple, red	1.5-3	1%
Apply a 1 percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 44 to 66 fluid ounces of this product per acre.		
Maple, sugar	—	1%
Apply when at least 50 percent of the new leaves are fully developed.		
Monkey flower <sup>1,2</sup>	—	1-1.5%
Oak, black, white <sup>1</sup>	1.5-3	1-1.5%
Oak, post	2-3	1%
Oak, northern	—	1%
Apply when at least 50 percent of the new leaves are fully developed.		
Oak, southern Red	1.5-2	1%
Persimmon <sup>1</sup>	1.5-3.3	1-1.5%
Pine	1.5-3.3	1-1.5%
Poison ivy/		
Poison oak	2.5-3.3	1.5%
Repeat applications may be required to achieve control. Fall treatments must be applied before leaves lose green color.		
Poplar, yellow <sup>1</sup>	1.5-3.3	1-1.5%

Redbud, Eastern	1.5-3.3	1-1.5%
Rose, multiflora	1.5	1%
Treatments should be made prior to leaf deterioration by leaf-eating insects.		
Russian olive <sup>1</sup>	1.5-3.3	1-1.5%
Sage, black <sup>2</sup>	—	1%
Sage, white <sup>1</sup>	1.5-3.3	1-1.5%
Sage brush,		
California <sup>2</sup>	—	1%
Salmonberry	1.5-2	1%
Salcedar	1.5-3.3	1-1.5%
Sassafras <sup>1</sup>	1.5-3.3	1-1.5%
Sourwood <sup>1</sup>	1.5-3.3	1-1.5%
Sumac, poison,		
smooth, winged <sup>1</sup>	1.5-3	1-1.5%
Sweetgum	1.5-2	1%
Swordfern <sup>1</sup>	1.5-3.3	1-1.5%
Tallowtree, Chinese <sup>2</sup>	—	1%
Tan oak resprouts <sup>1</sup>	—	1.5%
Apply to resprouts that are less than 3 to 5 feet tall. Best results are obtained with fall applications.		
Thimbleberry	1.5-2	1%
Tobacco, tree <sup>1</sup>	—	1-1.5%
Trumpet creeper	1.5-2	1%
Vine maple <sup>1</sup>	1.5-3.3	1-1.5%
Virginia creeper	1.5-3.3	1-1.5%
Waxmyrtle,		
southern <sup>1</sup>	1.5-3.3	1-1.5%
Willow	2-3	1%

<sup>1</sup> Partial Control

<sup>2</sup> Through coverage of foliage is necessary for best results.

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## 17.0 LIMIT OF WARRANTY AND LIABILITY

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

For over-the-top uses on Roundup Ready crops, crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY

OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

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EPA Reg. No. 524-539

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MONSANTO



MONSANTO COMPANY  
1300 I (EYE) STREET, NW  
SUITE 450 EAST  
WASHINGTON, D.C. 20005  
PHONE (202) 383-2866  
FAX (202) 789-1748  
<http://www.monsanto.com>

June 8, 2004

Office of Pesticide Programs (7504C)  
Document Processing Center (NOTIF)  
U.S. Environmental Protection Agency  
Crystal Mall #2, Room 266A  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup Original MAX Herbicide (EPA Reg. No. 524-539)  
Submission of final printed supplemental label  
Preharvest and Spot-Treatments of Weeds in Dry Beans

Dear Mr. Tompkins,

Monsanto is submitting for your files, three (3) copies of the final printed supplemental labels for Roundup Original MAX Herbicide (EPA Reg. No. 524-539, Print Plate No. 63008C1-22) for the above use. The EPA approved this label on May 20, 2004.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-9036.

Sincerely,

Debra Hinton  
Registration Specialist

cc: R. Schneider  
S. Wratten

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number  
295555

### Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original MAX Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 1300 I (Eye) Street, N.W., Suite 450 East Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 5/20/2004
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Print Plate No. 63008C1-22

### Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
* Certification must be submitted				<input type="checkbox"/> Plastic	
	If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Director, Regulatory Affairs	Telephone No. (Include Area Code) (202) 783-2460

#### Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature 	3. Title Registration Specialist	6. Date Application Received (Stamped) 
4. Typed Name Debra Hinton	5. Date June 8, 2004	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too", reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL® MAX HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup Original MAX herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.



EPA Reg. No. 524-539

Roundup Original is a registered trademark of Monsanto Technology LLC.

### PREHARVEST AND SPOT-TREATMENTS OF WEEDS IN DRY BEANS

Keep out of reach of children.

#### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX herbicide for essential product performance information.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX herbicide for essential product performance information.

#### DIRECTIONS FOR USE

See the "APPLICATION EQUIPMENT AND TECHNIQUES" Section of the Roundup Original MAX herbicide label booklet for more information.

To minimize drift, use nozzles that emit medium to large-sized droplets. The likelihood of drift occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing, or when there are other meteorological conditions that favor spray drift. Extreme care must be used when applying this product to avoid injury to desirable plants and crops.

#### BROADCAST SPRAY

**USE INSTRUCTIONS:** This product may be applied as an over-the-top broadcast spray to control labeled weeds prior to the harvest of dry beans. Apply up to 22 fluid ounces in 3 to 20 gallons of water per acre at the hard dough stage of the

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legume seed (30 percent grain moisture or less). Either ground broadcast or aerial applications may be made.

#### PRECAUTIONS, RESTRICTIONS:

- Apply at least 7 days before harvest.
- Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the Roundup Original MAX herbicide label.
- Preharvest application is not recommended for dry beans grown for seed, as a reduction in germination or vigor may occur.
- Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system.
- Do not treat cowpeas, since this crop is considered to be grown as livestock feed.

#### SPOT TREATMENTS

**USE INSTRUCTIONS:** This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in dry beans. Apply up to 22 fluid ounces in 10 to 20 gallons of water through ground spray equipment or use a 2 percent solution in a hand-held sprayer. For best results, applications should be made at or beyond the bud stage of growth. The crop receiving spray in treated areas will be killed.

#### PRECAUTIONS, RESTRICTIONS:

- Apply at least 7 days before harvest.
- Only one application per year may be made; do not combine spot treatments with a preharvest broadcast spray on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the Roundup Original MAX herbicide label.
- Do not feed treated vines and hay from these crops to livestock.
- Do not treat cowpeas, since this crop is considered to be grown as livestock feed.

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Read the "Limit of Warranty and Liability" in the label booklet for Roundup Original MAX herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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ST. LOUIS, MISSOURI 63167

05/20/2004

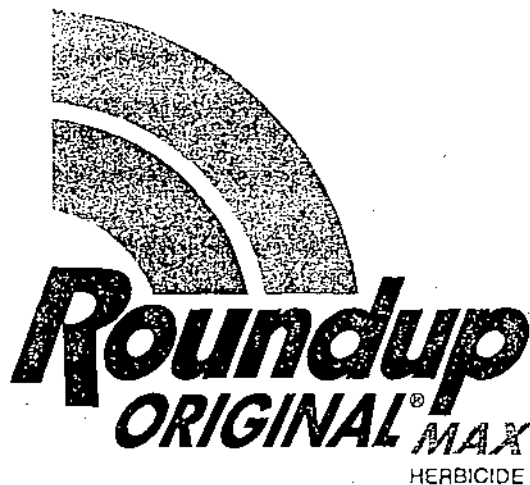
63008C1-22

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## SUPPLEMENTAL LABELING

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#### BROADCAST SPRAY

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legume seed (30 percent grain, moisture or less). Either ground broadcast or aerial applications may be made.

**PRECAUTIONS, RESTRICTIONS:**

- Apply at least 7 days before harvest.
- Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the Roundup Original MAX herbicide label.
- Preharvest application is not recommended for dry beans grown for seed, as a reduction in germination or vigor may occur.
- Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system.
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05/20/2004

63008C1-22

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24

legume seed (30 percent grain moisture or less). Either ground broadcast or aerial applications may be made.

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05/20/2004

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MONSANTO



MONSANTO COMPANY  
1300 I (EYE) STREET, NW  
SUITE 450 EAST  
WASHINGTON, D.C. 20005  
PHONE (202) 383-2866  
FAX (202) 789-1748  
<http://www.monsanto.com>

June 8, 2004

Office of Pesticide Programs (7504C)  
Document Processing Center (NOTIF)  
U.S. Environmental Protection Agency  
Crystal Mall #2, Room 266A  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup Original MAX Herbicide (EPA Reg. No. 524-539)  
Submission of final printed supplemental label  
Preharvest and Spot-Treatments of Weeds in Dry Peas, Lentils, and Chickpeas

Dear Mr. Tompkins,

Monsanto is submitting for your files, three (3) copies of the final printed supplemental labels for Roundup Original MAX Herbicide (EPA Reg. No. 524-539, Print Plate No. 63008C1-23) for the above use. The EPA approved this label on May 20, 2004.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-9036.

Sincerely,

Debra Hinton  
Registration Specialist

cc: R. Schneider  
S. Wratten

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

295554

## Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original MAX Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 1300 I(eye) Street, N.W., Suite 450 East Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 5/20/2004
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Print Plate No. 63008C1-23

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No. per container		<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
Certification must be submitted				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Russell P. Schneider		Title Director, Regulatory Affairs		Telephone No. (Include Area Code) (202) 783-2460	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					8. Date Application Received (Stamped) 
2. Signature 		3. Title Registration Specialist			
4. Typed Name Debra Hinton		5. Date June 8, 2004			

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

### PAPERWORK REDUCTION ACT NOTICE:

Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

### INSTRUCTIONS:

This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

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### SPECIFIC INSTRUCTIONS:

Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

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1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registration, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

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Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
1. **Location of Net Contents** - Indicate the location of the net contents information for your product.
1. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
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1. **Method in which label is affixed to product** - Indicate the method product label is attached to retail container.

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- 5. Self-explanatory.
- EPA Use Only.

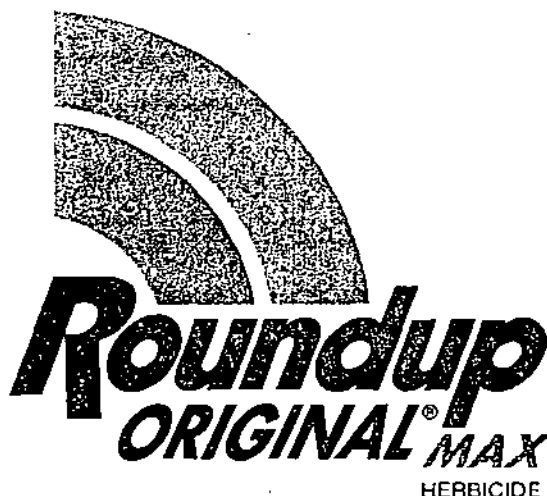
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## SUPPLEMENTAL LABELING

For distribution and use only in the States of Idaho, Minnesota, Montana, Nebraska, North Dakota, Oregon, South Dakota, and Washington

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EPA Reg. No. 524-539

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### PREHARVEST AND SPOT-TREATMENTS OF WEEDS IN DRY PEAS, LENTILS, AND CHICKPEAS

Keep out of reach of children.

**CAUTION!**

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It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

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#### BROADCAST SPRAY

**USE INSTRUCTIONS:** This product may be applied as an over-the-top broadcast spray to control labeled weeds prior to the harvest of dry peas, lentils, and chickpeas. Apply up to 17 fluid ounces in 3 to 20 gallons of water per acre at the hard

dough stage of the legume seed (30 percent grain moisture or less). Either ground broadcast or aerial applications may be made.

**PRECAUTIONS, RESTRICTIONS:**

- Apply at least 14 days before harvest.
- Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the Roundup Original MAX herbicide label.
- Preharvest application is not recommended for peas, lentils, or chickpeas grown for seed, as a reduction in germination or vigor may occur.
- Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system.
- Do not treat field (feed) peas, since these are considered to be grown as livestock feed.

**SPOT TREATMENTS**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in peas, lentils, and chickpeas. Apply up to 17 fluid ounces in 10 to 20 gallons of water through ground spray equipment or use a 2 percent solution in a hand-held sprayer. For best results, applications should be made at or beyond the bud stage of growth. The crop receiving spray in treated areas will be killed.

**PRECAUTIONS, RESTRICTIONS:**

- Apply at least 14 days before harvest.
- Only one application per year may be made; do not combine spot treatments with a preharvest broadcast spray on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the Roundup Original MAX herbicide label.
- Do not feed treated vines and hay from these crops to livestock.
- Do not treat field (feed) peas, since these are considered to be grown as livestock feed.

---

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Original MAX herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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## SUPPLEMENTAL LABELING

For distribution and use only in the States of Idaho, Minnesota, Montana, Nebraska, North Dakota, Oregon, South Dakota, and Washington

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL® MAX HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup Original MAX herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.



EPA Reg. No. 524-539

Roundup Original is a registered trademark of Monsanto Technology LLC.

### PREHARVEST AND SPOT-TREATMENTS OF WEEDS IN DRY PEAS, LENTILS, AND CHICKPEAS

Keep out of reach of children.

#### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX herbicide for essential product performance information.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

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#### DIRECTIONS FOR USE

See the "APPLICATION EQUIPMENT AND TECHNIQUES" Section of the Roundup Original MAX herbicide label booklet for more information.

To minimize drift, use nozzles that emit medium to large-sized droplets. The likelihood of drift occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing, or when there are other meteorological conditions that favor spray drift. Extreme care must be used when applying this product to avoid injury to desirable plants and crops.

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*(Handwritten signature/initials)*

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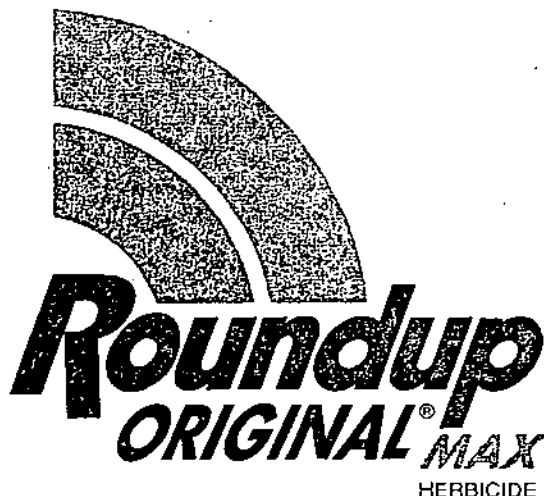
732

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MONSANTO



MONSANTO COMPANY  
1300 I (EYE) STREET, NW  
SUITE 450 EAST  
WASHINGTON, D.C. 20005  
PHONE (202) 383-2866  
FAX (202) 789-1748  
<http://www.monsanto.com>

June 8, 2004

Office of Pesticide Programs (7504C)  
Document Processing Center (NOTIF)  
U.S. Environmental Protection Agency  
Crystal Mall #2, Room 266A  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: RT Master II Herbicide (EPA Reg. No. 524-539)  
Submission of final printed supplemental label for  
Preharvest and Spot-Treatments of Weeds in Dry Peas, Lentils, and Chickpeas

Dear Mr. Tompkins,

Monsanto is submitting for your files, three (3) copies of the final printed supplemental labels for RT Master II Herbicide (EPA Reg. No. 524-539, Print Plate No. 63009C1-15) for the above use. The EPA approved text for this label under (524-539) on May 20, 2004.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-9036.

Sincerely,

Debra Hinton  
Registration Specialist

cc: R. Schneider  
S. Wratten





United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

295560

## Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) RT Master II Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 1300 I (Eye) Street, NW., Suite 450 East Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated <u>5/20/2004</u>
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.


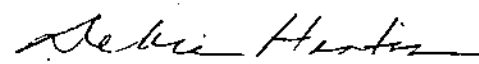
Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Print Plate No. 63009C1-15

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
				<input type="checkbox"/> Plastic	
				<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Director, Regulatory Affairs	Telephone No. (Include Area Code) (202) 383-2866
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		8. Date Application Received (Stamped) 
9. Signature 	3. Title Registration Specialist	
10. Typed Name Debra Hinton	5. Date June 8, 2004	

## SUPPLEMENTAL LABELING

For distribution and use only in the States of Idaho, Minnesota, Montana, Nebraska, North Dakota, Oregon, South Dakota, and Washington

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EPA Reg. No. 524-539

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#### PRECAUTIONS, RESTRICTIONS:

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- Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area.

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- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the RT Master II herbicide label.
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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

296807

## Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) RT Master II Herbicide Roundup Original MAX Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	NOTIFICATION MAR 8 2004
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Weed Resistance Management Supplemental Labels

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)

Name Dr. Russell P. Schneider	Title Director, Regulatory Affairs	Telephone No. (Include Area Code) (202) 783-2460
----------------------------------	---------------------------------------	---

## Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

b. Date Application Received  
(Stamped)

2. Signature 	3. Title Manager, Registrations	 SIG
4. Typed Name Stephen J. Wratten, Ph.D.	5. Date January 21, 2004	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). If not exempted by 40 CFR 152.81 (b) (4);
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**CONFIDENTIAL INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

**Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.

**EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.

**Proposed Classification** - Specify the proposed classification of this product.

**Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only.

**Duplication of names** is not permitted among products of the same company. Do not include any brand name or company line designations.

**Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

**Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for registration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

**Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

**Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types.

**Indicate the size of the individual packets and number per retail container.**

**Type of Retail Container** - Indicate type of container in which product will be marketed.

**Location of Net Contents** - Indicate the location of the net contents information for your product.

**Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.

**Location of Use Directions** - Indicate the location of the use directions for your product.

**Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

Self-explanatory.

EPA Use Only.

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NOTIFICATION

MAR 2 2004

MONSANTO COMPANY  
600 15TH STREET, N.W.  
SUITE 660  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

January 21, 2004

Document Processing Center (NOTIF)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup Original MAX Herbicide (EPA Reg. No. 524-539)  
RT Master II Herbicide (EPA Reg. No. 524-539)  
Weed Resistance Management Supplemental Labels

Dear Mr. Tompkins:

On 30-Oct-2003, EPA approved Monsanto's proposed label direction for weed resistance management procedures for Roundup WeatherMAX Herbicide (524-537), relating to PR Notice 2001-5. Copies of EPA's letter and the stamped label are enclosed for your reference.

In the course of discussion at the 14-Jul-2003 meeting on this subject, EPA informed Monsanto that it would be acceptable to extend this same label language to other Monsanto glyphosate registrations via Notification. Accordingly, Monsanto is notifying the Agency that we will use this same label text for products on the 524-539 registration, typified by Roundup Original II Herbicide and RT Master II Herbicide. Enclosed for the Agency's records are five (5) copies of draft labeling for each.

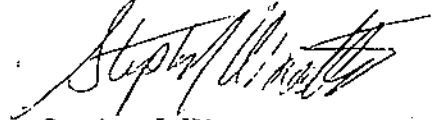
*This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR§ 152.46, and no other change, besides the addition of the attached text, have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 USC Sec. 1001 to willfully make any false statements to the EPA. I*

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*further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement actions and penalties under sections 12 and 14 of FIFRA.*

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider (202-383-2866) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

cc: R. P. Schneider

R Orig MAX & RT Mast II weed resist.doc

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# SUPPLEMENTAL LABELING

NOTIFICATION

MAR 8 2004

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL MAX HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup Original MAX as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling.

## Roundup Original MAX

Herbicide

PA Reg. No. 524-539

Roundup Ready is a registered trademark and Roundup Original MAX is a trademark of Monsanto Technology LLC.

### For Glyphosate Weed Resistance Management

Keep out of reach of children.

**CAUTION!**

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS) DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

For specific rates of application and instructions, refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE TABLES" in the label booklet for Roundup Original MAX herbicide.

#### Information on Weed Resistance

GROUP	<b>9</b>	HERBICIDE
-------	----------	-----------

Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices.

Weed resistance management recommendations for Group 9 herbicides are:

- Ensure optimum weed control by making applications at the right time (correct weed size) and

utilizing the recommended label rate for the most difficult to control weed in your field.

- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank-mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2-4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Monsanto representative.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Original MAX herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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# SUPPLEMENTAL LABELING

NOTIFICATION

MAR 2 2004

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL MAX HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup Original MAX as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling.

## Roundup Original MAX

Herbicide

EPA Reg. No. 524-539

Roundup Ready is a registered trademark and Roundup Original MAX is a trademark of Monsanto Technology LLC.

### For Glyphosate Weed Resistance Management

Keep out of reach of children.

**CAUTION!**

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS) DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

For specific rates of application and instructions, refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE TABLES" in the label booklet for Roundup Original MAX herbicide.

#### Information on Weed Resistance

GROUP	9	HERBICIDE
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Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices.

Weed resistance management recommendations for Group 9 herbicides are:

- Ensure optimum weed control by making applications at the right time (correct weed size) and

utilizing the recommended label rate for the most difficult to control weed in your field.

- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank-mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2-4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Monsanto representative.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Original MAX herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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# SUPPLEMENTAL LABELING

NOTIFICATION

MAR 5 2004

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL MAX HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup Original MAX as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling.

## Roundup Original MAX

Herbicide

EPA Reg. No. 524-539

Roundup Ready is a registered trademark and Roundup Original MAX is a trademark of Monsanto Technology LLC.

### For Glyphosate Weed Resistance Management

Keep out of reach of children.

**CAUTION!**

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS) DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

For specific rates of application and instructions, refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE TABLES" in the label booklet for Roundup Original MAX herbicide.

#### Information on Weed Resistance

GROUP	9	HERBICIDE
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Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices.

Weed resistance management recommendations for Group 9 herbicides are:

- Ensure optimum weed control by making applications at the right time (correct weed size) and

utilizing the recommended label rate for the most difficult to control weed in your field.

- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank-mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2-4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Monsanto representative.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Original MAX herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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# SUPPLEMENTAL LABELING

NOTIFICATION

MAR 2 2005

**READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL MAX HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.**

When using Roundup Original MAX as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling.

## Roundup Original MAX

Herbicide

PA Reg. No. 524-539

Roundup Ready is a registered trademark and Roundup Original MAX is a trademark of Monsanto Technology LLC.

### For Glyphosate Weed Resistance Management

Keep out of reach of children.

**CAUTION!**

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS) DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

For specific rates of application and instructions, refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE TABLES" in the label booklet for Roundup Original MAX herbicide.

#### Information on Weed Resistance

GROUP	9	HERBICIDE
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Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices.

Weed resistance management recommendations for Group 9 herbicides are:

- Ensure optimum weed control by making applications at the right time (correct weed size) and

utilizing the recommended label rate for the most difficult to control weed in your field.

- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank-mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2-4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Monsanto representative.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Original MAX herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR RT MASTER II HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using RT Master II as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling.

## RT Master II

Herbicide

EPA Reg. No. 524-539

Roundup Ready is a registered trademark and RT Master is a trademark of Monsanto Technology LLC.

## For Glyphosate Weed Resistance Management

Keep out of reach of children.

**CAUTION!**

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS) DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

For specific rates of application and instructions, refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE TABLES" in the label booklet for RT Master II herbicide.

## Information on Weed Resistance

GROUP	<b>9</b>	HERBICIDE
-------	----------	-----------

Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices.

Weed resistance management recommendations for Group 9 herbicides are:

- Ensure optimum weed control by making applications at the right time (correct weed size) and

utilizing the recommended label rate for the most difficult to control weed in your field.

- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank-mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2-4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Monsanto representative.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for RT Master II herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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# SUPPLEMENTAL LABELING

NOTIFICATION

1/13 2/2004

READ THE ENTIRE LABEL FOR RT MASTER II HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using RT Master II as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling.

## RT Master II

Herbicide

EPA Reg. No. 524-539

Roundup Ready is a registered trademark and RT Master is a trademark of Monsanto Technology LLC.

### For Glyphosate Weed Resistance Management

Keep out of reach of children.

**CAUTION!**

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS) DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

For specific rates of application and instructions, refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE TABLES" in the label booklet for RT Master II herbicide.

#### Information on Weed Resistance

GROUP	9	HERBICIDE
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Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices.

Weed resistance management recommendations for Group 9 herbicides are:

- Ensure optimum weed control by making applications at the right time (correct weed size) and

utilizing the recommended label rate for the most difficult to control weed in your field.

- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank-mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2-4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Monsanto representative.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for RT Master II herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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# SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR RT MASTER II HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using RT Master II as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling.

## RT Master II

Herbicide

EPA Reg. No. 524-539

Roundup Ready is a registered trademark and RT Master is a trademark of Monsanto Technology LLC.

### For Glyphosate Weed Resistance Management

Keep out of reach of children.

**CAUTION!**

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS) DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

For specific rates of application and instructions, refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE TABLES" in the label booklet for RT Master II herbicide.

#### Information on Weed Resistance

GROUP	9	HERBICIDE
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Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices.

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utilizing the recommended label rate for the most difficult to control weed in your field.

- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank-mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2-4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Monsanto representative.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for RT Master II herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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# SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR RT MASTER II HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using RT Master II as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling.

## RT Master II

Herbicide

EPA Reg. No. 524-539

Roundup Ready is a registered trademark and RT Master is a trademark of Monsanto Technology LLC.

### For Glyphosate Weed Resistance Management

Keep out of reach of children.

### CAUTION!

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS) DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

For specific rates of application and instructions, refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE TABLES" in the label booklet for RT Master II herbicide.

#### Information on Weed Resistance

GROUP

9

HERBICIDE

Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices.

Weed resistance management recommendations for Group 9 herbicides are:

- Ensure optimum weed control by making applications at the right time (correct weed size) and

utilizing the recommended label rate for the most difficult to control weed in your field.

- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank-mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2-4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Monsanto representative.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for RT Master II herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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ST. LOUIS, MISSOURI 63167



MONSANTO  
imagine



MONSANTO COMPANY  
600 15TH STREET, N.W.  
SUITE 660  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

January 21, 2004

Document Processing Center (NOTIF)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup Original MAX Herbicide (EPA Reg. No. 524-539)  
RT Master II Herbicide (EPA Reg. No. 524-539)  
Weed Resistance Management Supplemental Labels

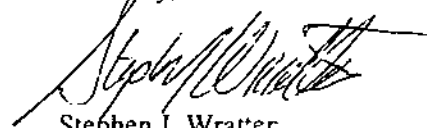
Dear Mr. Tompkins:

On 30-Oct-2003, EPA approved Monsanto's proposed label direction for weed resistance management procedures for Roundup WeatherMAX Herbicide (524-537), relating to PR Notice 2001-5. Copies of EPA's letter and the stamped label are enclosed for your reference.

In the course of discussion at the 14-Jul-2003 meeting on this subject, EPA informed Monsanto that it would be acceptable to extend this same label language to other Monsanto glyphosate registrations via Notification. Accordingly, Monsanto is notifying the Agency that we will use this same label text for products on the 524-539 registration, typified by Roundup Original II Herbicide and RT Master II Herbicide. Enclosed for the Agency's records are five (5) copies of draft labeling for each.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider (202-383-2866) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,

  
Stephen J. Wratten  
Manager, Registrations

cc: R. P. Schneider

R Orig MAX & RT Mast II weed resist.doc





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

007 36

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Ms. Annette M. Kirk  
Monsanto Company  
600 13<sup>th</sup> Street, NW, Suite 660  
Washington, DC 20005

COPY

Dear Ms. Kirk:

Subject: Roundup Weather MAX Herbicide (Glyphosate Weed Resistant Management to  
Comply with PR Notice 2001-5)  
EPA Registration No. 524-537  
Application Dated August 4, 2003

The labeling referred to above, submitted in connection with registration under the  
Federal Insecticide, Fungicide, and Rodenticide Act as amended is acceptable. A stamped copy  
of labeling is enclosed for your records.

Sincerely,

*James A. Tompkins*  
James A. Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505C)

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# SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP WEATHERMAX HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup WeatherMAX as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling.

## Roundup WeatherMAX

Herbicide

EPA Reg. No. 524-537

Roundup Ready is a registered trademark and Roundup WeatherMAX is a trademark of Monsanto Technology LLC.

### For Glyphosate Weed Resistance Management

Keep out of reach of children.

**CAUTION!**

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS) DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

For specific rates of application and instructions, refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE TABLES" in the label booklet for Roundup WeatherMAX herbicide.

#### Information on Weed Resistance

GROUP 9 HERBICIDE

Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices.

Weed resistance management recommendations for Group 9 herbicides are:

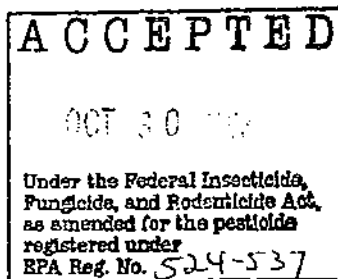
- Ensure optimum weed control by making applications at the right time (correct weed size) and

utilizing the recommended label rate for the most difficult to control weed in your field.

- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank-mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2-4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Monsanto representative.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup WeatherMAX herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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ST. LOUIS, MISSOURI 63167

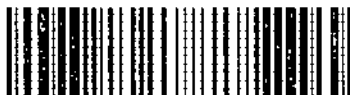


63011C1-1/53

**PROTOCOL II**

HERBICIDE

**Complete Directions for Use**

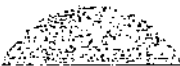


(91)063011041153

EPA Reg. No. 524-539

2004-1

GROUP	9	HERBICIDE
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63011C1-1/53

## **PROTOCOL<sup>®</sup> II**

**HERBICIDE**

Selective broad-spectrum weed control in Roundup Ready<sup>®</sup> crops. Non-selective, broad-spectrum weed control for many agricultural systems.

### **Complete Directions for Use**

EPA Reg. No. 524-539

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

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**CONTENTS****2**

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read the entire label before using this product.

Use only according to label instructions.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

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## 1.0 INGREDIENTS

### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its potassium salt..... 48.7%

OTHER INGREDIENTS..... 51.3%  
100.0%

\*Contains 660 grams per liter or 5.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its potassium salt. Equivalent to 540 grams per liter or 4.5 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patents Nos. 6,365,551 and RE 37,866. Other patents pending. No license granted under any non-U.S. patent(s).

## 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE.

1-800-332-3111

2. IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT.

(314) 694-4000

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## INGREDIENTS

## PRECAUTIONARY STATEMENTS 6

### 3.0 PRECAUTIONARY STATEMENTS

#### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

#### CAUTION!

CAUSES MODERATE EYE IRRITATION.

Avoid contact with eyes, skin, or clothing.

<b>FIRST AID:</b> Call a poison control center or doctor for treatment advice.	
<b>IF IN EYES</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses if present after the first 5 minutes then continue rinsing eye.</li></ul>
<b>IF ON SKIN</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li></ul>
<ul style="list-style-type: none"><li>• Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</li><li>• You may also contact (314) 694-4000, collect day or night, for emergency medical treatment information.</li><li>• This product is identified as Protocol® II herbicide, EPA Registration No. 524-539.</li></ul>	

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

#### Personal Protective Equipment (PPE)

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistance category selection chart.

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

#### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### 3.2 Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

## PRECAUTIONARY STATEMENTS 7

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## PRECAUTIONARY STATEMENTS 8

### 3.3 Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

#### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.  
PPE required for entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with any thing that has been treated, such as plants, soil, or water, wear: coveralls, shoes plus socks and chemical-resistant gloves made of any waterproof material.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses. Keep people and pets off treated areas until spray solution has dried.

### 4.0 STORAGE AND DISPOSAL

**PESTICIDE STORAGE:** Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

See container label for alternate PESTICIDE DISPOSAL instructions.

### 5.0 GENERAL INFORMATION (How this product works)

**Product Description:** This product is a postemergent, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody

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## GENERAL INFORMATION 10

brush and trees. It is formulated as a water-soluble liquid. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label instructions.

Do not add buffering agents or pH adjusting agents to the spray solution when Protocol II herbicide is the only pesticide used unless otherwise directed. See the "MIXING" section of this label for instructions regarding other additives.

Although not generally required, surfactants or additives containing surfactants may be added to this product. Refer to the "MIXING" section of this label for additional information.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" for recommendations for specific weeds.

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Reduced weed control may result from treating weeds with disease or insect damage, weeds heavily covered with dust, or weeds under poor growing conditions.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off

of the foliage and a repeat application may be required for adequate control.

**Spray Coverage:** For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of run-off.

**Mode of Action:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to formation of specific amino acids.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow.

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

When this label recommends a tank mixture with a generic active ingredient such as diuron, alarazine, 2,4-D, or dicamba, the user is responsible for ensuring that the mixture product's label allows the specific application.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials may result in reduced performance.

Tank mixtures with certain herbicides listed in this label may result in reduced weed control due to antagonism. Read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used. Use according to the most restrictive directions for each product in the mixture.

**Annual Maximum Use Rate:** Except as otherwise specified in a crop

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## GENERAL INFORMATION 12

section of this label, the combined total of all treatments must not exceed 5.3 quarts of this product per acre per year. For applications in non-crop sites or in tree, vine, or shrub crops, the combined total of all treatments must not exceed 7 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

**NOTE:** Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

### Information on Weed Resistance:

GROUP	9	HERBICIDE
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Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices.

Weed resistance management recommendations for Group 9 herbicides are:

- Ensure optimum weed control by making applications at the right time (correct weed size) and utilizing the recommended label rate for the most difficult to control weed in your field.
- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2 to 4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Monsanto representative.

## 6.0 MIXING

Use the following conversion table to help determine application rates of Protocol II herbicide based on commonly used rates of Roundup Original herbicide.

PROTOCOL II CONVERSION TABLE	
PROTOCOL II (Ounces)	Roundup Original (Ounces)
16	24
22	32
27	40
32	48

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

**NOTE:** REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

## 6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

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## 6.2 Tank Mixing Procedure

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20- to 35-mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If ammonium sulfate is used add it slowly through the screen into the tank. Continue agitation. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding other products.
4. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
5. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
7. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
8. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift reduction additive and water soluble liquid.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance. Ensure that the specific tank mixture product is registered for application at the desired site.

Refer to the "Tank Mixing" section of "GENERAL INFORMATION" for additional precautions.

## 6.3 Mixing for Hand-Held Sprayers

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

### Spray Solution

Desired Volume	Amount of Protocol II herbicide					
	0.4%	0.7%	1%	1.5%	4%	7%
1 gal	0.5 oz	1 oz	1.3 oz	2 oz	5 oz	9 oz
25 gal	0.8 pt	0.7 qt	1 qt	1.5 qt	4 qt	7 qt
100 gal	1.6 qt	2.8 qt	1 gal	1.5 gal	4 gal	7 gal

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

## 6.4 Surfactants

Although not generally required, surfactant may be added to this product. However, surfactant addition is recommended at water carrier volumes above 30 gallons per acre or rates below 16 fluid ounces of this product per acre. Nonionic surfactants that are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, a rate of 0.25 to 0.50 percent surfactant concentration (1 to 2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient is recommended. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

When applied as recommended under the conditions described, this product controls annual and perennial weeds listed in this label booklet.

DO NOT add buffering agents or pH adjusting agents to the spray solution when Protocol II herbicide is the only pesticide used. Unless otherwise directed, non-ionic surfactant may be added to the spray solution for applications to Roundup Ready crops. The addition of certain surfactants to this product may result in

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some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Refer to the "ROUNDUP READY CROPS" section of this label or separately published supplemental labeling for additional precautions or restrictions. In addition, always read and carefully observe cautionary statements and other information appearing on the surfactant label.

## 6.5 Ammonium Sulfate

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, particularly under hard water conditions, drought conditions or when tank mixed with certain residual herbicides, on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

NOTE: When using ammonium sulfate, apply this product at rates recommended in this label. Lower rates will result in reduced performance.

## 6.6 Colorants or Dyes

Agriculturally approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

## 6.7 Drift Reduction Additives

Drift reduction additives may be used with all equipment types, except wiper applicators, sponge bars and Controlled Droplet Applicator (CDA) equipment. When a drift reduction additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label. The use of drift reduction additives can affect spray coverage which may result in reduced performance.

# 7.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

**Aerial**—Fixed Wing and Helicopter

**Ground Broadcast Spray**—Boom or boomless systems, pull-type sprayer, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment.

**Hand-Held or High-Volume Spray Equipment**—Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

\*This product is not registered in California or Arizona for use in mistblowers.

**Selective Equipment**—Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.

**Injection Systems**—Aerial or ground injection sprayers.

**Controlled Droplet Applicator (CDA)**—Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

## 7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 22 fluid ounces per acre. Refer to the individual use area sections of this label for recommended volumes, application rates, and further instructions.

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FOR AERIAL APPLICATION IN CALIFORNIA OR SPECIFIC COUNTIES THEREIN, OR ARKANSAS, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE OR COUNTY FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

This product plus dicamba tank mixtures may not be applied by air in California.

Ensure uniform application - To avoid streaked, uneven or overlapped application, use appropriate marking devices.

### AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed  $3/4$  the length of the wingspan or rotor.
2. Nozzles must always point backward, parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

### Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the "Wind", "Temperature and Humidity", and "Temperature Inversions" sections of this label).

### Controlling Droplet Size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation:** Orienting nozzles so that the spray is released

backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.

- **Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom length:** For some use patterns, reducing the effective boom length to less than  $3/4$  of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller droplets, etc.).

### Wind

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 miles per hour due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### Temperature Inversions

Applications should not occur during a temperature inversion because

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drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### Sensitive Areas

The product should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Avoid direct application to any body of water.

#### Aircraft Maintenance

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE. The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

## 7.2 Ground Broadcast Equipment

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equip-

ment, use flat spray nozzles. Check for even distribution of spray droplets.

## 7.3 Hand-Held or High-Volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of run-off. Use coarse sprays only. For recommended rates and timing, refer to the "Annual Weeds—Hand-Held Or High-Volume Equipment" section of this product label.

## 7.4 Selective Equipment

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars, after dilution and thorough mixing with water, to listed weeds growing in any non-crop site specified on this label.

In cropping systems, hooded sprayers, shielded sprayers, and wipers may be used in row middles (in between rows of crop plants) where any dripping or leaking will not contact crop foliage. Such equipment must be capable of preventing all crop contact with herbicide solutions and operated without leakage of spray mists or dripping onto crop. Wipers over-the-top of crops may be used only when specifically recommended in this product's labeling.

#### AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Application equipment used above desirable vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be

affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

#### Recirculating Spray System

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

#### Shielded and Hooded Applicators

When applied under the conditions described in the following paragraphs for shielded and hooded applications, this product at recommended rates will control those weeds listed in the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" of this label. A hooded sprayer is a type of shielded applicator where the spray pattern is fully enclosed including top, sides, front and back, thereby shielding the crop from the spray solution. Keep shields on these sprayers adjusted to protect desirable vegetation. When applying to crops grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

Use hoods designed to minimize excessive dripping or run-off down the insides of the hoods. A single, low pressure/low-drift flat-fan nozzle with an 80 to 95 degree spray angle positioned at the top center of the hood is recommended. Spray volume should be 20 to 30 gallons per acre.

These procedures will reduce the potential for crop injury:

- The spray hoods must be operated on the ground or skimming across the ground.
- Leave at least an 8 inch untreated strip over the drift row. For example, if the crop row width is 38 inches, the maximum width of the spray

hood should be 30 inches.

- Maximum tractor speed: 5 miles per hour to avoid bouncing of the spray hoods.
- Maximum wind speed: 10 miles per hour.
- Use low-drift nozzles that provide uniform coverage within the treated area.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

#### Wiper Applicators

When applied under the conditions described in the following paragraphs, this product **CONTROLS** many weeds, including volunteer corn, Texas panicum, common rye, shattercane, sicklepod, spanishneedles, and bristly starbur; and **SUPPRESSES** many weeds including Florida beggarweed, Bermudagrass, hemp dogbane, dogfennel, guineagrass, johnsongrass, milkweed, silverleaf nightshade, redroot pigweed, giant ragweed, smutgrass, sunflower, Canada thistle, musk thistle, vaseygrass, and velvetleaf.

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if two applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

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Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution.

**For Rope or Sponge Wick Applicators**—Solutions ranging from 33 to 75 percent of this product in water may be used. Apply this solution to weeds listed above in this section.

**For Panel Applicators**—Solutions ranging from 33 to 100 percent of this product in water may be used in panel wiper applicators.

## 7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products when using injection systems.

## 7.6 CDA Equipment

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 2 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 miles per hour (1 quart per acre). For the control of perennial weeds, apply a 20- to 30-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 miles per hour (2 to 3 quarts per acre).

Controlled droplet application equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

## 8.0 ANNUAL AND PERENNIAL CROPS (Alphabetical)

NOTE: THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED CROPS WITHIN SECTION 8 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PRE-HARVEST INTERVALS, AND ADDITIONAL PRECAUTIONS AND RESTRICTIONS.

See the "ROUNDUP READY CROPS" section of this label or separately published Monsanto Supplemental Labeling for instructions for treating Roundup Ready crops.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, and Post-Harvest Treatments.

### GENERAL USE INSTRUCTIONS:

Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or preemergent to annual and perennial crops listed in this label, except where specifically limited. For any crop not listed in this label, applications must be made at least 30 days prior to planting. Unless otherwise specified, weed control applications may be made according to the rates listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" in this label. Repeat applications may be made up to a maximum of 5.3 quarts per acre per year.

Post-directed hooded sprayers and wiper equipment capable of preventing all crop contact with herbicide solutions may be used in mulched or unmulched row middles after crop establishment. Where specifically noted below, wipers may also be used above certain crops to control tall weeds. Refer to the "Selective Equipment" section of this label for essential precautions when using hooded sprayers or wipers to avoid crop injury caused by leakage of spray mists or dripping onto crops. Crop injury is possible with these applications and shall be the sole responsibility of the applicator.

The maximum use rates stated throughout this product's labeling apply

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to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

#### GENERAL PRECAUTIONS, RESTRICTIONS:

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Broadcast applications made at emergence will result in injury or death to emerged seedlings. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

In crops where spot treatments are allowed, do not treat more than 10 percent of the total field to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason.

For broadcast postemergent treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

## 8.1 Cereal and Grain Crops

**LABELED CROPS:** Barley, Buckwheat, Millet (pearl, proso), Oats, Rice, Rye, Quinoa, Teff, Teosinte, Triticale, Wheat (all types), Wild Rice.

**PRECAUTIONS, RESTRICTIONS:** Do not treat rice fields or levees when field contains water.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Red Rice Control Prior to Planting Rice, Spot Treatment (except Rice), Over-the-Top Wiper Applications (Feed Barley and Wheat Only), Preharvest (Feed Barley and Wheat Only).

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of cereal crops. Applications must be made prior to emergence of the crop.

#### Red Rice Control Prior to Planting Rice

**USE INSTRUCTIONS:** Apply 32 fluid ounces of this product in 5 to 10 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of red rice. Make application when the majority of the red rice plants are in the 2-leaf stage and no more than 4 inches tall. Red rice plants with less than 2 true leaves may be only partially controlled.

**PRECAUTIONS, RESTRICTIONS:** Avoid spraying during low humidity conditions, as reduced control may result. Do not treat rice fields or levees when the fields contain floodwater. Do not reflood treated fields for 8 days following application.

#### Spot Treatment (except Rice)

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in cereal crops. Apply this product before heading in small grains.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

#### Over-the-Top Wiper Applications (Feed Barley and Wheat Only)

**USE INSTRUCTIONS:** Wiper applications may be used in wheat and feed barley. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth, and when the rye is at least 6 inches above the wheat crop.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 35 days between application and harvest. Do not use roller applicators.

#### Preharvest (Feed Barley and Wheat Only)

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of wheat or feed barley. For wheat, apply after the hard-dough stage of grain (30 percent or less grain moisture). For feed barley, apply after the hard-dough stage and when the grain contains 20 percent

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moisture or less. Stubble may be grazed immediately after harvest.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 22 fluid ounces of this product per acre. Allow 7 days between application and harvest or grazing. Preharvest application is not recommended for wheat or barley grown for seed, as a reduction in germination or vigor may occur.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied after harvest of cereal crops. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## 8.2 Corn

**TYPES OF CORN:** Field Corn, Seed Corn, Silage Corn, Sweet Corn and Popcorn.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Spot Treatment, Preharvest.

For use directions for corn containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting corn. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting corn. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

2,4-D	Frontier®/Outlook®
Aim®	FulTime®
atrazine	Guardsman®/Leadoff®
Axiom®	Harness®
Balance®	Harness Xtra
Banvel®/Clarity®	Harness Xtra 5.6L
Bicep MAGNUM®	Lariat®
Bicep II MAGNUM®	Lasso®/Alachlor
Bullet®	Linex™/Lorox™
Degree®	Marksman®
Degree Xtra®	Micro-Tech®
Distinct®	Prowl®
Dual MAGNUM®	Python®
Dual II MAGNUM®	Simazine
Epic®	TopNotch®

For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, use rate may need to be increased for acceptable weed control.

**PRECAUTIONS, RESTRICTIONS:** Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn.

For Southern states, do not apply in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. The area covered by this recommendation includes from Route 50 South in Illinois and Indiana and the following states: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

#### Hooded Sprayers

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of corn. Only hooded sprayers that

completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Corn must be at least 12 inches tall, measured without extending leaves. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not apply more than 22 fluid ounces of this product per acre for each application and no more than 64 fluid ounces per acre per year for hooded sprayer applications.

#### Spot Treatment

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to silking of corn.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

#### Preharvest

**USE INSTRUCTIONS:** Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground applications, apply up to 64 fluid ounces of this product per acre. For aerial applications, apply up to 44 fluid ounces of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest. Preharvest application is not recommended for corn grown for seed, as a reduction in germination or vigor may occur.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## 8.3 Cotton

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Selective Equipment, Spot Treatment, Preharvest.

For use direction for cotton containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting cotton. Apply these tank mixtures in 10 to 20 gallons of water per acre.

Caparel®	Dual II Magnum
Clarity	Karmex®
Command™	Meturon®
Coloran®	Prowl
Cotton-Pro®	Staple®
Direr®	Zonal®
Dual Magnum	2,4-D

**PRECAUTIONS/RESTRICTIONS:** Refer to individual product labels for rates, restrictions, precautionary statements and preplant intervals.

#### Hooded Sprayers, Selective Equipment

**USE INSTRUCTIONS:** This product may be applied through hooded sprayers, recirculating sprayers, shielded applicators or wiper applicators in cotton. Allow at least 7 days between application and harvest.

**PRECAUTIONS, RESTRICTIONS:** See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

#### Spot Treatment

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to boll

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opening of cotton.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

#### Preharvest

**USE INSTRUCTIONS:** This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" of this label. For cotton regrowth inhibition, apply 11 to 44 fluid ounces of this product per acre.

Up to 44 fluid ounces of this product may be applied using either aerial or ground spray equipment. Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

**TANK MIXTURES:** This product may be tank mixed with DEFT™ 6, Folex™, Ginstar, or Prep™ to provide additional enhancement of cotton leaf drop.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Preharvest application is not recommended for cotton grown for seed, as a reduction in germination or vigor may occur.

## 8.4 Fallow Systems

**LABELED CROPS:** This product may be applied during the fallow period prior to planting or emergence of any crop on this label.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Aid-to-Tillage.

#### Chemical Fallow

**USE INSTRUCTIONS:** This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or sup-

press many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used. Applications up to 44 fluid ounces per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting. Do not apply dicamba tank mixtures by air in California.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if dicamba is applied within 45 days of planting.

#### Preplant Fallow Beds

**USE INSTRUCTIONS:** This product may be applied to fallow beds prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product will control weeds listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" of this label.

**TANK MIXTURES:** In addition, 8 fluid ounces of this product plus 2 to 3 fluid ounces of Goal® 2XL per acre will control the following weeds with the maximum height or length indicated: 3 inches—common cheeseweed, chickweed, groundsel; 6 inches—London rocket, shepherd's-purse.

11 fluid ounces of this product plus 2 to 3 fluid ounces of Goal 2XL per acre will control the following weeds with the maximum height or length indicated: 6 inches—common cheeseweed, groundsel, marestail (*Conyza canadensis*), 12 inches—chickweed, London rocket, shepherd's-purse.

#### Aid-to-Tillage

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after applica-

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tion before tillage.

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures with residual herbicides may result in reduced performance.

## 8.5 Grain Sorghum (Milo)

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following:  
Spot treatment, Over-the-Top Wiper Applications, Preharvest.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied alone or in tank mixture before, during or after planting grain sorghum. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting grain sorghum. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

Alazine	IntRRo™
Bicep II MAGNUM	Lariat
Bullet	Lasso
Dual II MAGNUM	Micro-tech

For difficult-to-control annual weeds such as fall panicum, barnyard-grass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, the use rate may need to be increased for acceptable weed control.

**Spot Treatment, Over-the-Top Wiper Applications**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in grain sorghum. Make spot treatments before heading of milo. This product may be applied with wiper applicators to control or suppress the weeds listed under "Wiper Applicators" in the "Selective Equipment" section of this label.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

**Hooded Sprayers**

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of milo. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

**PRECAUTIONS, RESTRICTIONS:** Milo must be at least 12 inches tall, measured without extending leaves. Treat before milo sends tillers between the drill rows. If such tillers are contacted with the spray solution, the main plant may be killed. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers. Do not apply more than 22 fluid ounces of this product per acre per application and no more than 64 fluid ounces per acre per year for hooded sprayer applications.

**Preharvest**

**USE INSTRUCTIONS:** Make applications at 30 percent grain moisture or less.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 44 fluid ounces of this product per acre. As with other herbicides that cause sudden plant death, avoid preharvest applications of this product to milo

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infected with charcoal rot as lodging can occur. Allow a minimum of 7 days between application and harvest of sorghum. Preharvest application is not recommended for sorghum grown for seed, as a reduction in germination or vigor may occur. The use of this product for preharvest grain sorghum (milo) is not registered in California.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of grain sorghum. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 22 fluid ounces of this product per acre for control, or 16 fluid ounces of this product per acre for suppression.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## 8.6 Herbs and Spices

**LABELED CROPS:** Allspice, Angelica, Star anise, Annatto (seed), Balm, Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Black caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese chive, Cinnamon, Clary, Clove buds, Coriander leaf (cilantro or chinese parsley), Coriander seed (cilantro), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Oil (dillweed), Dill (seed), Epazote, Fennel seed (common and Florence), Fenugreek, White ginger flower, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf and seed), Mace, Marigold, Marjoram (including oregano), Mexican oregano, Mioga flower, Mustard (seed), Nasturtium, Nutmeg, Parsley (dried), Pennyroyal, Pepper (black and white), Pepper leaves, Peppermint, Perilla, Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Spearmint, Stevia leaves, Sweet bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following:

**Over-the-Top Wiper Applications (Peppermint and Spearmint Only), Spot Treatment (Peppermint and Spearmint Only).**

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to ensure that the wash water flushes off the plastic mulch and does not enter transplant holes.

**Over-the-Top Wiper Applications, Spot Treatment (Peppermint and Spearmint Only)**

**USE INSTRUCTIONS:** This product may be used as a spot treatment or wiper application in spearmint and peppermint. Apply spot treatments on a spray-to-wet basis with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, handguns, handwands or any other hand-held or motorized spray equipment used to direct the spray solution to a limited area. In wiper applications, the applicator should be adjusted so that the wiper contact point is at least 2 inches above the crop. Weeds should be a minimum of 6 inches taller than the crop.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30-day intervals. In spot treatment applications, no more than 10 percent of the total field area to be harvested should be treated at one time. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for this reason. In wiper applications, contact of the herbicide solution with the crop may result in damage or destruction.

## 8.7 Oil Seed Crops

**LABELED CROPS:** Borage, Buffalo gourd (seed), Canola, Crambe, Flax, Jojoba, Lesquerella, Meadowfoam, Mustard (seed), Rape, Safflower, Sesame, Sunflower.

For use directions for canola containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0.

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**USE INSTRUCTIONS:** This product may be applied before, during or after planting oil seed crops. Broadcast applications must be made prior to emergence of the listed oil seed crops. Wiper applicators or hooded sprayers may be used between the rows once the crop is established.

**TANK MIXTURES:** For sunflowers, a tank mixture with Prowl® may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 44 fluid ounces of this product per acre on canola. Do not apply more than 22 fluid ounces of this product per acre for sunflowers as a single preplant or preemergent application per year. Do not feed or graze sunflower forage following application of this product.

## 8.8 Soybeans

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Spot Treatment, Preharvest, Selective Equipment.

For use directions for soybeans containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in a tank-mixture before, during or after planting soybeans. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** Apply these tank mixtures in 10 to 20 gallons of water per acre.

Aim	Command
Amplify™	Command Xtra™
Assure® II	Domain®
Authority®	Dual MAGNUM
Boundary®	Dual II MAGNUM
Canopy®	FirstRate®
Canopy XL®	Flexstar™
Cobra®	Frontier/Outlook

Fusion®	Pursuit®
Gauntlet®	Pursuit Plus
IntRRo	Rellex®
Lasso	Scepter®
Linex	Sencor®/Lexone®
Lorox/Aminuron	Select™
Lorox Plus®	Squadron®
Micro-Tech	Steel®
Prowl	Valor®

This product may be tank mixed with 2,4-D or 2,4-DB, provided that the specific product is registered for application prior to planting soybeans. See the 2,4-D label for intervals between application and planting.

For difficult-to-control annual weeds such as fall panicum, barnyard-grass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall.

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures with some of the above listed herbicides may result in reduced weed control due to antagonism. Read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used. Use according to the most restrictive directions for each product in the mixture.

### Spot Treatment

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to initial pod set in soybeans.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

### Preharvest

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans.

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Apply at rates given in the "ANNUAL WEEDS", "PERENNIAL WEEDS" and "WOODY BRUSH AND TREES RATE SECTIONS". This product may be applied using either aerial or ground spray equipment. Apply after pods have set and lost all green color. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 3.3 quarts per acre of this product for preharvest applications. Do not apply more than 44 fluid ounces per acre of this product by air. Allow a minimum of 7 days between application and harvest of soybeans. Do not graze or harvest treated hay or fodder for livestock feed within 25 days of last preharvest application. (If the application rate is 22 fluid ounces per acre or lower, the grazing restriction is reduced to 14 days after last preharvest application.) Preharvest application is not recommended for soybeans grown for seed, as a reduction in germination or vigor may occur.

#### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans. Allow at least 7 days between application and harvest.

**PRECAUTIONS, RESTRICTIONS:** See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

## 8.9 Sugarcane

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus Spot Treatment.

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied in or around sugarcane fields or in fields prior to the emergence of plant cane.

**PRECAUTIONS, RESTRICTIONS:** Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

#### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 1-

percent solution of this product in water and spray-to-wet the foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.

**PRECAUTIONS, RESTRICTIONS:** Avoid spray contact with healthy cane plants since severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

#### Fallow Treatments

**USE INSTRUCTIONS:** This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 2.5 to 3.3 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage. Ground or aerial application equipment may be used. Applications up to 64 fluid ounces per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops. Tank mixtures with 2,4-D and dicamba may be used.

#### Hooded Sprayers

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of sugarcane. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional use instructions.

**PRECAUTIONS, RESTRICTIONS:** Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

## 8.10 Vegetable Crops

**NOTE:** THIS "VEGETABLE CROPS" SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED VEGETABLE CROPS WITHIN SECTION 8.10 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

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**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, Prior to Transplanting Vegetables, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, and Post-Harvest. Directed Applications (Non-Bearing Ginseng), Over-the-Top Wiper Applications (Rutabagas Only).

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to insure that the wash water flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

### 8.10.1 Brassica Vegetables

**LABELED CROPS:** Broccoli, Chinese broccoli (gai lan), Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccoli, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens.

### 8.10.2 Bulb Vegetables

**LABELED CROPS:** Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot.

### 8.10.3 Cucurbit Vegetables and Fruits

**LABELED CROPS:** Chayote (fruit), Chinese wargourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucurbit, heichima, Chinese okra), Melons (all), *Momordica* spp (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon.

**PRECAUTIONS, RESTRICTIONS:** For Cantaloupe, Casaba melon, Crenshaw melon, Cucumber, Gherkin, Gourds, Honeydew melon, Honey ball melon, Mango melon, Melons (all), Muskmelon, Persian melon, Pumpkin, Squash (summer, winter), and Watermelon, allow at least 3 days between application and planting.

### 8.10.4 Leafy Vegetables

**LABELED CROPS:** Amaranth (Chinese spinach), Arugula (rocket), Beet greens, Cardoon, Celery, Chinese celery, Celuice, Chaya, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Dokudami, Endive (escarole), Florence fennel, Cow kee, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Swiss chard, Watercress (upland), Water spinach.

**PRECAUTIONS, RESTRICTIONS:** For Watercress, avoid applications within 3 days prior to seeding and during the period between seeding and

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emergence to minimize the risk of injury.

### 8.10.5 Fruiting Vegetables

**LABELED CROPS:** Eggplant, Groundcherry (*Physalis spp.*), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimiento, sweet pepper), Tomatillo, Tomato.

**PRECAUTIONS, RESTRICTIONS:** For Eggplant, Ground cherry, Pepper (all), and Tomatillo, allow at least 3 days between application and planting. For tomato, do not make hooded or shielded sprayer applications in row middles unless otherwise directed.

### 8.10.6 Legume Vegetables (succulent or dried)

**LABELED CROPS:** Bean (*Lupinus*: includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus*: includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, lepre bean, war bean), Bean (*Vigna*: includes adzuki bean, asparagus bean, blackeye pea, calong, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (*Pisum*: includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean.

### 8.10.7 Root and Tuber Vegetables

**LABELED CROPS:** Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Beet (garden), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chula, Dasheen (taro), Galangal, Ginger, Ginseng, Horseradish, Leren, Kava (turnip-rooted), Parsley (turnip rooted), Parsnip, Potato, Radish, Oriental radish, Rutabaga, Salsify, Black salsify, Spanish salsify, Skirret, Sweet potato, Taniar, Turmeric, Turnip, Wasabi, Yacon, Yam bean, True yam.

#### Directed Applications (Non-Bearing Ginseng Only)

**USE INSTRUCTIONS:** This product may be used for general weed control in established non-bearing ginseng. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high volume wands, lances, and orchard guns or with wiper application equipment.

**PRECAUTIONS, RESTRICTIONS:** Direct applications so that there is no contact of this product with the ginseng plant. Applications must be made at least one year prior to harvest.

#### Over-the-Top Wiper Applications (Rutabagas Only)

**USE INSTRUCTIONS:** Wiper applicators may be used over-the-top of rutabagas.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 14 days between application and harvest of rutabagas.

### 8.11 Miscellaneous Crops

**LABELED CROPS:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: General Weed Control, Site Preparation, Spot Treatment (Asparagus), Post-Harvest (Asparagus).

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this

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label for additional information.

#### General Weed Control, Site Preparation

**USE INSTRUCTIONS:** This product may be applied for general weed control or for site preparation prior to planting or transplanting crops listed in this section.

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to ensure that the wash water flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application.

#### Spot Treatment (Asparagus)

**USE INSTRUCTIONS:** This product may be applied immediately after cutting, but prior to the emergence of new spears.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

#### Post-Harvest (Asparagus)

**USE INSTRUCTIONS:** This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

**PRECAUTIONS, RESTRICTIONS:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence post-harvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

## 9.0 TREE, VINE, AND SHRUB CROPS (Alphabetical)

**NOTE:** THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED TREE, VINE, AND SHRUB CROPS WITHIN SECTION 9 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATIONS:** Preplant (Site Preparation) Broadcast Sprays, General Weed Control, Middles (between rows of trees, vines or bushes), Strips (within rows of trees, vines or bushes), Selective Equipment (shielded sprayers, wiper applications), Directed Sprays, Spot Treatment, Perennial Grass Suppression, Cut Stump.

Applications may be made with boom equipment, CDA equipment, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed.

**GENERAL USE INSTRUCTIONS:** This product may be applied in middles (between rows of trees or vines), strips (within rows of trees or vines), and for general weed control or perennial grass suppression in established tree fruit and nut groves, orchards, berries, and vineyards. It may also be used for site preparation prior to planting or transplanting these crops. Apply 1.1 fluid ounces to 3.3 quarts per acre according to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" of this label. Utilize rates at the higher end of the recommended rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 7 quarts per acre per year.

The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

**GENERAL PRECAUTIONS, RESTRICTIONS:** Extreme care must be exercised

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to avoid contact of herbicide solution, spray, drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees, canes and vines. Avoid applications when recent pruning wounds or other mechanical injury has occurred. Contact of this product with other than matured brown bark can result in serious crop damage or destruction. Only shielded or directed sprayers may be used in crops with potential for crop contact, and then only where there is sufficient clearance. For applications in strips (within rows of trees), only selective equipment (directed sprays, hooded sprayers, shielded applicators, or wipers) should be used to minimize the potential for leakage or drift of herbicide sprays onto crop. For berry crops, hooded or shielded sprayers must be fully enclosed including top, sides, front and back. Only wipers or shielded applicators capable of preventing all contact with crop may be used. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional directions and precautions.

Allow a minimum of 3 days between application and transplanting.

### Middles (between rows)

**USE INSTRUCTIONS:** This product will control or suppress annual and perennial weeds and ground covers growing between the rows of labeled tree and vine crops. If weeds are under drought stress, irrigate prior to application. Reduced control may result if weeds have been mowed prior to application.

**TANK MIXTURES:** A tank mixture of this product plus Goal 2XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations. 11 to 22 fluid ounces per acre of this product plus 3 to 11 fluid ounces per acre of Goal 2XL will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherd's-purse, annual sowthistle, filaree (suppression), horse-weed/marestail, stinging nettle and common purslane (suppression). 11 to 22 fluid ounces per acre of this product plus 3 to 11 fluid ounces per acre of Goal 2XL will control common cheeseweed (malva) or hairy fleabane with a maximum height or diameter of 3 inches.

### Strips (in rows)

**TANK MIXTURES:** This product may be applied in rows of tree or vine crops in tank mixtures with the following products:

Devrigo <sup>TM</sup> 50 DF	Simazine 41
Dirax <sup>®</sup> 4L	Simazine 80W
Goal 2XL	Sim-Trol <sup>TM</sup> 4L
Karmex DF	Solitam DF <sup>®</sup>
Krovar I	Surflan <sup>TM</sup> AS
Prowl	Surflan 75W
Princep Caliber <sup>TM</sup> 90	

Do not apply these tank mixtures in Puerto Rico.

Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

### Perennial Grass Suppression

This product will suppress perennial grasses such as bahiagrass, Bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 4 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 4 fluid ounces of this product per acre. Do not add ammonium sulfate.

For best results, mow cool season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahia grass for approximately 45 days, apply 4 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 2 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of Bermudagrass, apply 22 to 44 fluid ounces of this product

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in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the Bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

For suppression of Bermudagrass, apply 4 to 11 fluid ounces of this product per acre east of the Rocky Mountains and 11 fluid ounces of this product per acre west of the Rocky Mountains. Apply in a total spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the Bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and Bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 4 to 7 fluid ounces of this product per acre should be used in shaded conditions or where a lesser degree of suppression is desired.

### Cut Stump

**USE INSTRUCTIONS:** Cut stump applications of this product may be made during site preparation or site renovation, prior to transplanting tree crops. This product will control regrowth of cut stumps and resprouts of many types of tree species, some of which are listed below.

**Citrus Trees:** Calamondin, Chironja, Citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (Tangerine), Orange (all), Pummelo, Tangelo, Tangor.

**Fruit Trees:** Apple, Apricot, Cherry (sweet, sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (all), Quince.

**Nut Trees:** Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory Nut, Macadamia, Pecan, Pistachio, Walnut (black, English).

Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

**PRECAUTIONS, RESTRICTIONS:** DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF ADJACENT DESIRABLE TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

## 91 Berry Crops

**LABELED CROPS:** Blackberry (including bingleberry, black satin berry, boysenberry, Cherokee blackberry, chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, juneberry, lavacaberry, lowberry, lucretiaberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, and youngberry), Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Loganberry, Salal.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0 plus Spot Treatment in Cranberry Production and Post-Harvest Treatments in Cranberry Production.

**PRECAUTIONS, RESTRICTIONS:** To avoid damage, herbicide sprays must not be allowed to contact desirable vegetation, including green shoots, canes, or foliage. Allow a minimum of 30 days between last application and harvest in cranberries. Allow a minimum of 14 days between last application and harvest in other berry crops. Do not make directed sprays within the cranberry bush areas prior to berry harvest.

### Spot Treatment in Cranberry Production

**USE INSTRUCTIONS:** Spot treatments may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. Hand-held sprayers or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. Drop water level to remove standing water in ditches prior to application. In hand-held sprayers, use 1- to 1.5-percent solution of this product. Spray to wet vegetation, not to run-off.

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**PRECAUTIONS, RESTRICTIONS:** For treatments after draw down of water in dry ditches, allow 2 or more days after treatment before reintroduction of water to achieve maximum weed control. Apply this product within 1 day after draw down to ensure application to actively growing weeds. Allow a minimum of 30 days between last application and harvest of cranberries. Do not apply this material through the irrigation system. Do not make applications by air. Do not apply directly to water. Use nozzles that emit medium- to large-sized droplets to minimize drift in order to avoid crop injury.

### Post-Harvest Treatments in Cranberry Production

**USE INSTRUCTIONS:** Application of this product may be made after the harvest of cranberries to control weeds growing within the field. Best results will be obtained if applications are made to vines that appear dormant (after they have turned red). Hand-held sprayers, wipers, or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. If using hand-held sprayers, use a 0.4- to 0.7-percent solution of this product. Spray to wet vegetation, not to run-off. If using hand-held boom sprayers, apply 44 to 86 fluid ounces of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Make applications only after cranberries have been harvested. Do not treat more than 10 percent of the total bog. Allow a minimum of 6 months after last application and next harvest of cranberries. Do not apply this product through the irrigation system. Do not make applications by air. Do not apply directly to water. Even though vines appear dormant, contact of the herbicide solution with desirable vegetation may result in damage or severe plant injury. Cranberry plants that are directly sprayed may be killed.

## 9.2 Citrus

**LABELED CROPS:** Calamondin, Chironja, Citron, Citrus Hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (all), Pummelo, Satsuma Mandarin, Tangelo (ugh), Tangerine.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**USE INSTRUCTIONS:** (The recommendations below pertain to Florida and Texas.)

For burndown or control of the weeds listed below, apply the recommended rates of this product in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 44 to 64 fluid ounces of this product per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 44 fluid ounces per acre when plants are less than 8 inches tall and 64 fluid ounces per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the addition of Krovar® 1 or Karmex® may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

### Perennial weeds:

S = Suppression

PC = Partial control

B = Burndown

C = Control

WEED SPECIES	PROTOCOL II RATE PER ACRE			
	0.7 QT	1.3 QT	2 QT	3.3 QT
Bermudagrass	B	—	PC	C
Guineagrass	B	C	C	C
Texas and Florida Ridge	—	B	C	C
Florida Flatwoods	B	C	C	C
Paragrass	S	—	PC	C
Torpedograss	S	—	PC	C

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in citrus crops. For citron groves, apply as directed sprays only.

## 9.3 Miscellaneous Tree Food Crops

**LABELED CROPS:** Cactus (fruit and pads), Palm (heart, leaves), Palm (oil).

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

## 9.4 Non-Food Tree Crops

**LABELED CROPS:** Pine, Poplar, Eucalyptus, Christmas Trees, Other non-food tree crops.

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TYPES OF APPLICATIONS: Those listed in Section 9.0.

NOTE: Unless otherwise directed, this product is not recommended for use as an over-the-top broadcast spray in plantations or other labeled tree crops.

Directed Sprays, Spot Treatment, Wiper Applications

USE INSTRUCTIONS: This product may be used as a post-directed spray and spot treatment around established poplar, eucalyptus, Christmas trees and other non-food tree crops.

PRECAUTIONS, RESTRICTIONS: Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established Christmas trees and other pine trees. Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

Site Preparation

USE INSTRUCTIONS: This product may be used prior to planting.

PRECAUTIONS, RESTRICTIONS: Precautions should be taken to protect nontarget plants during site preparation applications.

### 9.5 Pome Fruit

LABELED CROPS: Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince.

TYPES OF APPLICATIONS: Those listed in Section 9.0.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 1 day between last application and harvest in pome crops.

### 9.6 Stone Fruit

LABELED CROPS: Apricot, Cherry (sweet, tart), Nectarine, Olive, Peach, Plum/Prune (all types), Plumcot.

TYPES OF APPLICATIONS: Those listed in Section 9.0, except for olive groves, apply as directed sprays only.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 17 days between last application and harvest in stone fruit crops. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications

near trees with recent pruning wounds or other mechanical injury. EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.

### 9.7 Tree Nuts

LABELED CROPS: Almond, Beechnut, Betelnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Coconut, Filbert (hazelnut), Hickory nut, Macadamia, Pecan, Pine nut, Pistachio, Walnut (black, English)

TYPES OF APPLICATIONS: Those listed in Section 9.0.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 3 days between last application and harvest of tree nuts, except coconut. Allow 14 days between application and harvest in coconut.

### 9.8 Tropical and Subtropical Trees and Fruits

LABELED CROPS: Ambarella, Atemoya, Avocado, Banana, Barbados cherry (acerola), Biriha, Blimbe, Breadfruit, Cacao (cocoa) bean, Canistel, Carambola (starfruit), Cherimoya, Coffee, Custard apple, Dales, Durian, Feijoa, Figs, Governor's plum, Guava, Hama, Imbe, Imbu, Jaboticaba, Jackfruit, Longan, Lychee, Mamey apple, Mango, Mangosteen, Marmaladebox (genip), Mountain papaya, Papaya, Pawpaw, Plantain, Persimmon, Pomegranate, Pulasan, Rambutan, Rose apple, Sapodilla, Sapote (black, mamey, white), Spanish lime, Soursop, Star apple, Sugar apple, Surinam cherry, Tamarind, Tea, Ti (roots and leaves), Wax jamba.

TYPES OF APPLICATIONS: Those listed in Section 9.0 plus Bananacide (Banana only).

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 1 day between last application and harvest in banana, guava, papaya, and plantain crops. Allow a minimum of 14 days between last application and harvest for any other tropical or subtropical tree fruit. Allow a minimum of 28 days between last application and harvest in coffee crops. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

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**Bananacide (Banana only)**

**USE INSTRUCTIONS:** This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus as well as non-infected banana plants to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 0.04 fluid ounce (1 ml) of this product's concentrate per 2 to 3 inches of pseudostem diameter. Make the injection at least one foot above the ground, except for very small plants, which should be injected vertically into the top. Any subsequent regrowth must also be destroyed. All plants and mats (or units) adjacent (within a 4-foot radius) to a treated mat shall be mechanically destroyed.

For control of the Banana Bunchy Top Virus, it is critical that the grower follow a strict control program involving monitoring for diseased plants, spraying to control the aphid vector, and destruction of all infected mats (or units). An infected plant may not show symptoms of the banana bunchy top virus for up to 125 days, therefore it is critical that the entire mat (or unit) containing the diseased plant be destroyed immediately.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 0.5 fluid ounce (15 mL) of this product's concentrate per mat (or unit). Remove all fruit from plants and mats (or units) prior to treatment. Do not harvest any fruit or plant materials from treated mats (or units) following injection. Do not allow livestock to consume treated plant materials. Following transplant of new banana plants into treated areas, allow plants to become established for 3 months before applying this product for general weed control.

**9.9 Vine Crops**

**LABELED CROPS:** Grapes (raisin, table, wine), Hops, Kiwi, Passion fruit.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

Applications should not be made when green shoots, canes or foliage are in the spray zone.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury, or make applications with shielded sprayers or wiper equipment.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 14 days between last application and harvest in vine crops. Do not use selective equipment in kiwi.

**10.0 PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS****10.1 Alfalfa, Clover, and Other Forage Legumes**

**LABELED CROPS:** Alfalfa, Clover, Kenaf, Kudzu, Lespedeza, Leucaena, Lupin, Sainfoin, Trefoil, Velvet bean, Vetch (all types).

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Preharvest (except Kenaf and Leucaena), Spot Treatment, Over-the-Top Wiper Applications, Renovation.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting crops listed in this section. Applications must be made prior to emergence of the crop.

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application. The crop may be fed or grazed as soon as it reaches sufficient maturity.

**Preharvest (except Kenaf and Leucaena)**

**USE INSTRUCTIONS:** This product may be used in declining stands or any stand where severe crop injury or destruction is acceptable. This product will control annual and perennial weeds, including quackgrass, when applied prior to crop harvest. Applications may be made at any time of the year. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control.

**PRECAUTIONS, RESTRICTIONS:** Make only one application to an existing crop stand per year. The treated crop and weeds can be harvested and fed to livestock according to the intervals below.

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	Maximum Single Application Rate*	Minimum Interval between application and harvest/grazing
Alfalfa	44 fluid ounces	36 hours
All other labeled legumes above	32 fluid ounces	3 days

\* By aerial or ground broadcast spray

This application may destroy an alfalfa stand and may severely injure or destroy other labeled crops such as clover. Preharvest application is not recommended for alfalfa grown for seed, as a reduction in germination or vigor may occur.

#### Spot Treatment, Over-the-Top Wiper Applications

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators. For wipers, see the "Wiper Applicators" in the "Selective Equipment" section of this label. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than 10 percent of the total field area should be treated at one time. Remove domestic livestock before application and wait 3 days after application before grazing livestock or harvesting.

#### Renovation

**USE INSTRUCTIONS:** This product may be applied as a broadcast spray to renovate existing stands of alfalfa, clover, and other labeled forage legumes. If the crop is to be grazed or harvested for feed, use up to 44 fluid ounces per acre in alfalfa and up to 32 fluid ounces per acre in other labeled legumes. For complete removal of established stands of clover, it may be necessary to use the higher treatment rates listed in the "PERENNIAL WEEDS RATE SECTION".

**PRECAUTIONS, RESTRICTIONS:** When treatment rates of 44 fluid ounces per acre for alfalfa or 32 fluid ounces per acre for other forage legumes are used, remove domestic livestock before application and wait 3 days after application before reintroduction. If treatment rates above these levels are necessary, do not graze or harvest treated foliage for livestock feed. Crops listed for treatment in this label may be planted into the treated area at

any time; for other crops, wait 30 days between application and planting.

## 10.2 Conservation Reserve Program (CRP)

**TYPES OF APPLICATIONS:** Renovation (rotating out of CRP), Site Preparation, Postemergence Weed Control in Dormant CRP Grasses, Over-the-Top Wiper Applications.

#### Renovation (Rotating out of CRP), Site Preparation

**USE INSTRUCTIONS:** This product may be used to prepare CRP land for crop production. Refer to Federal, state or local use guides for CRP renovation recommendations. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting.

#### Postemergence Weed Control in Dormant CRP Grasses, Over-the-Top Wiper Applications

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 8 to 11 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 2 quarts per acre per year onto CRP grasses.

## 10.3 Grass Seed or Sod Production

**LABELLED CROPS:** Any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in this label under "Cereal and Grain Crops".

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Renovation, Removal of Established Stands, Site Preparation, Shielded

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Sprayers, Over-the-Top Wiper Applications, Spot Treatment, Creating Rows in Annual Ryegrass.

**Preplant, Preemergence, At-Planting, Renovation, Removal of Established Stands, Site Preparation**

**USE INSTRUCTIONS:** This product controls most existing vegetation prior to renovating turf or forage grass seed areas or establishing turf grass grown for sod. It may also be used to destroy remaining undesired grass vegetation when production fields are converted to alternate species or crops. Make applications before, during, or after planting or for renovation. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as Bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates up to 3.3 quarts per acre may be used to totally remove established stands of tough to kill grass species.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting. Applications must be made prior to the emergence of the crop to avoid crop injury.

#### **Shielded Sprayers**

**USE INSTRUCTIONS:** Apply 22 to 64 fluid ounces of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aid in shielded sprayer applications.

Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields. For additional instructions, see "Hooded and Shielded Applicators" in the "Selective Equipment" section.

**PRECAUTIONS, RESTRICTIONS:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

#### **Over-the-Top Wiper Applications**

**USE INSTRUCTIONS:** Applicators should be adjusted so that the wiper contact point is at least 2 inches above the desirable vegetation. Weeds should be a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when height of weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. For additional instructions, see "Wiper Applicators" in the "Selective Equipment" section.

**PRECAUTIONS, RESTRICTIONS:** Contact of the herbicide solution with desirable vegetation may result in damage or destruction.

#### **Spot Treatment**

**USE INSTRUCTIONS:** Use a 1.0-percent solution.

**PRECAUTIONS, RESTRICTIONS:** Apply this product prior to heading of grasses grown for seed. The crop receiving the spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason. Hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

#### **Creating Rows in Annual Ryegrass**

**USE INSTRUCTIONS:** Use 11 to 22 fluid ounces of this product per acre. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height.

**PRECAUTIONS, RESTRICTIONS:** Set nozzle heights to allow the establishment of the desired row spacing while preventing spray droplets, spray fines, or drift to contact the ryegrass plants not treated. Use of low-pressure nozzles, or drop nozzles designed to target the application over a



narrow band are recommended.

Grower assumes all responsibility for crop losses from misapplication.

## 10.4 Pastures

**LABELLED CROPS:** Any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in this label under "Cereal and Grain Crops", including Bahiagrass, Bermudagrass, Bluegrass, Brome, Fescue, Guinea grass, Kikuyugrass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass.

**TYPES OF APPLICATIONS:** Preplant, Preemergence, Pasture Renovation, Spot Treatment, Over-the-Top Wiper Applications, Postemergent Weed Control (Broadcast Treatments).

### Preplant, Preemergence, Pasture Renovation

**USE INSTRUCTIONS:** This product may be applied prior to planting or emergence of forage grasses. In addition, this product may be used to control perennial pasture species listed on this label prior to re-planting.

**PRECAUTIONS, RESTRICTIONS:** If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding of livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Crops listed for treatment in this label may be planted into the treated area at any time; for other crops, wait 30 days between application and planting.

### Spot Treatment, Over-the-Top Wiper Applications

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatments or wiper application methods using rates of 2 quarts per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper application are made using rates above 2 quarts per acre, no more than 10 percent of the total pasture may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting.

### Postemergent Weed Control (Broadcast Treatments)

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of annual weeds and undesirable vegetation in pastures. For selective applications with broadcast spray equipment, apply 8 to 11 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Use of higher application rates will cause stand reductions. Do not apply more than 2 quarts per acre per year onto pasture grasses except for renovation uses (see instructions above). If replanting is needed due to severe stand reduction, applications must be made at least 30 days prior to planting any crop not listed for treatment in this label.

## 10.5 Rangelands

**TYPES OF APPLICATIONS:** Postemergence.

This product will control or suppress many annual weeds growing in perennial cool and warm-season grass rangelands.

Preventing viable seed production is key to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years should eliminate most of the viable seeds.

Grazing of treated areas should be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.

**USE INSTRUCTIONS:** Apply 8 to 11 fluid ounces of this product per acre to control or suppress many weeds, including downy brome, cheatgrass, cereal rye and jointed goatgrass in rangelands. Apply when most brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Fall applications are possible, and recommended, where spring moisture is usually limited and fall

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germination allows for good weed growth.

For medusahead, apply 11 fluid ounces of this product per acre at the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Controlled burning may be useful in eliminating the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a burn. Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses in medusahead-dominated rangelands.

**PRECAUTIONS, RESTRICTIONS:** Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off. Do not use ammonium sulfate when spraying rangeland grasses with this product. No waiting period between treatment and feeding of livestock grazing is required. Do not apply more than 2 quarts per acre per year.

## 11.0 ROUNDUP READY CROPS

The following instructions or those separately published on Monsanto Supplemental labeling include all applications which can be made onto the specified Roundup Ready crops during the complete cropping season. Do NOT combine these instructions with other recommendations made for crops that do not contain a Roundup Ready gene, in the "ANNUAL AND PERENNIAL CROPS (Alphabetical)" section of this label, unless otherwise directed in this product label, supplemental labeling or fact sheets published separately by Monsanto.

**MONSANTO COMPANY RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON CROPS DESIGNATED AS CONTAINING A ROUNDUP READY GENE.**

Applying this product to crops that are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants that do not contain the Roundup Ready gene, since severe injury or destruction will result.

The Roundup Ready designation indicates that the crop variety contains a patented gene that provides tolerance to this product. Information on Roundup Ready crops may be obtained from your seed supplier or Monsanto representative. Roundup Ready crops must be purchased from

an authorized licensed seed supplier.

**NOTE:** Roundup Ready seed, and the method of selectively controlling weeds in a Roundup Ready crop by applying glyphosate to the weeds and Roundup Ready crop are protected under several U.S. Patents, including 5,352,605 and 5,633,435. A license to use Roundup Ready seed must be obtained prior to use. Monsanto retains ownership of the gene and process technologies, and the Purchaser of the seed receives the right to use the licensed genes and technologies subject to the limited use license conditions. Seed containing the Roundup Ready trait cannot be used for research and demonstration, reverse engineering or in connection with herbicide registration. Progeny seed containing the Roundup Ready trait cannot be saved for replanting or transferred to others for replanting. Contact your Authorized Monsanto Retailer for information on obtaining a limited use license.

For ground applications with broadcast equipment, apply this product in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment use flat spray nozzles. Check for even distribution of spray droplets.

For aerial applications apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for procedures to avoid spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

For proper stewardship of aerial applications over-the-top of Roundup Ready crops, Monsanto recommends that growers and applicators read and follow all precautions and procedures contained in the use guide "A Guide to On-Target Aerial Application" available by calling 1-800-ROUNDUP (1-800-768-6387).

**ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.**

See the "MIXING" and "APPLICATION EQUIPMENT AND TECHNIQUES" sections of this label for additional directions and restrictions on the application of this product.

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Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers may result in reduced weed control or crop injury and are NOT recommended for over-the-top applications of this product unless otherwise noted in this product label, supplemental labeling or fact sheets published separately by Monsanto.

Unless otherwise directed, nonionic surfactant may be added to the spray solution for applications to Roundup Ready crops. The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Refer to individual crops within this section of this label or separately published supplemental labeling for additional precautions or restrictions. In addition, always read and carefully observe cautionary statements and other information appearing on the surfactant label.

Ammonium sulfate may be mixed with this product for applications to Roundup Ready crops. Refer to the "MIXING" section for use instructions for ammonium sulfate.

**Sprayer Preparation.** It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product. Follow the cleaning procedures specified on the label of the product(s) previously used. **THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.**

**NOTE:** The following recommendations are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burndown treatment of this product is recommended to control existing weeds prior to crop emergence. Some weeds, such as black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sandbur, annual morningglory, woolly cupgrass, shattercane, wild proso millet, burcucumber, and giant ragweed with multiple germination times or suppressed (stunted) weeds may require a second application of this product for complete control. The second application should be made after some regrowth has occurred and at least 10 days after a previous application of this product.

## 11.1 Canola-Roundup Ready

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence.

**DO NOT USE THIS PRODUCT ON CANOLA CONTAINING A ROUNDUP READY GENE PLANTED IN THE FOLLOWING STATES: ALABAMA, DELAWARE, FLORIDA, GEORGIA, KENTUCKY, MARYLAND, NEW JERSEY, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, VIRGINIA AND WEST VIRGINIA, EXCEPT FOR USES IN WILDLIFE FOOD PLOTS THAT WILL NOT BE HARVESTED FOR HUMAN OR LIVESTOCK FOOD.**

Maximum Allowable Combined Application Quantities Per Season	
Preplant, At-Planting, Preemergence applications	44 fluid ounces per acre
Total in-crop application from emergence to 6-leaf stage	22 fluid ounces per acre

### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting canola.

### Postemergence

**USE INSTRUCTIONS:** This product may be applied postemergence to Roundup Ready Spring canola from emergence through the 6-leaf stage of development. Applications made during bolting or flowering may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

**Weeds Controlled:** For specific rates of application and instructions, refer to the "ANNUAL" and "PERENNIAL WEEDS RATE SECTIONS" in this label.

**Single Application—**Apply 11 to 15 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications that may result in temporary yellowing, delayed flowering, and or growth reduction. Similar injury may result when applications of more than 11 fluid ounces per acre are applied after the 4-leaf stage.

**Sequential Application—**Apply 11 fluid ounces per acre to 1- to 3-leaf

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canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential applications are recommended for early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass or when controlling weeds with multiple application times.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. No more than two over-the-top broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total in-crop application should not exceed 22 fluid ounces per acre. Allow a minimum of 60 days between last application and canola harvest.

**NOTE:** The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Always read and carefully observe cautionary statements and other information appearing on the surfactant label.

## 11.2 Corn-Roundup Ready

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence (in-crop), Spot Treatment, Preharvest, Post-Harvest.

<u>Maximum Allowable Combined Application Quantities Per Season</u>	
Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
In-crop applications	
Roundup Ready Corn from emergence through V8 or 30 inches	44 fluid ounces per acre (22 fluid ounces per acre per application)
Roundup Ready Corn 2 from emergence through 48 inches	64 fluid ounces per acre (32 fluid ounces per acre per application)
Preharvest application	22 fluid ounces per acre See PRECAUTIONS, RESTRICTIONS section for Preharvest applications.

### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in a tank-mixture before, during or after planting corn.

**TANK MIXTURES:** This product may be tank mixed with Bullet®, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, Lariat, Lasso or Micro-Tech at 50 to 100 percent of labeled rate. Refer to the specific product label and observe all precautions and limitations on the label for any preemergence herbicide application, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines—the more restrictive requirements apply.

**NOTE:** For maximum weed control, a postemergence (in-crop) application of this product should be applied following the use of less than labeled rates of the preemergence residual products listed above.

### Postemergence (in-crop)

**USE INSTRUCTIONS:** This product may be applied alone or in tank mixtures postemergence (in-crop) to corn hybrids designated as Roundup Ready Corn or Roundup Ready Corn 2. When applied as directed, this product controls labeled annual grass and broadleaf weeds. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. A postemergent application of 16 to 22 fluid ounces per acre of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop, generally 4 inch tall weeds or less. If new flushes of weeds occur, a sequential application of this product at 16 to 22 fluid ounces per acre will control the labeled grasses and broadleaf weeds.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label booklet for general precautionary instructions for use in Roundup Ready Crops. Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage or grain. The use of additional surfactant or other additives, including fertilizers and micro-nutrients in the spray solution may result in crop injury and reduced yield and is not recommended for over-the-top applications of this product to Roundup Ready Corn or Roundup Ready Corn 2, unless otherwise directed in supplemental labeling or fact

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sheets published separately by Monsanto.

**Specific use instructions:**

• **Roundup Ready Corn:** This product may be applied over-the-top broadcast or with drop nozzles postemergence to Roundup Ready Corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first. Drop nozzles are recommended for optimum spray coverage and weed control when corn height is 24 to 30 inches.

**PRECAUTIONS, RESTRICTIONS:** Single in-crop applications of this product are not to exceed 22 fluid ounces per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 44 fluid ounces per acre per growing season.

• **Roundup Ready Corn 2:** This product may be applied over-the-top broadcast or with drop nozzles postemergence to Roundup Ready Corn 2 from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches (free standing), whichever comes first. Drop nozzles are recommended for optimum spray coverage and weed control when corn height is 24 to 30 inches. For corn heights 30 to 48 inches (free standing), apply this product only using ground application equipment equipped with drop nozzles aligned to avoid spraying into the whorls of the corn plants.

**PRECAUTIONS, RESTRICTIONS:** Single in-crop applications of this product should not exceed 32 fluid ounces per acre. Sequential in-crop applications of this product from emergence through 48 inches in height must not exceed a total of 64 fluid ounces per acre per growing season.

**Postemergence tank mixtures:** This product may be applied in tank mixture with Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, and Micro-Tech at 50 to 100 percent of their labeled rate. This product may be applied in tank mixture with Permit<sup>®</sup>, Yukon<sup>®</sup> and atrazine at their labeled rates. Refer to the specific product label and observe all precautions and limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines—the more restrictive requirements apply. The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water

may increase the performance of this product under hard water conditions, drought conditions or when tank mixed with Degree Xtra, Harness Xtra, Harness Xtra 5.6L, Bullet, Micro-Tech or Atrazine herbicides.

Tank-Mix Partner	Maximum Height of Corn For Application
Degree Degree Xtra Harness Harness Xtra Harness Xtra 5.6 L	11 inches
Bullet* Micro-Tech*	5 inches
Permit Yukon	30 inches
Atrazine	12 inches

\*Bullet and Micro-Tech are not registered for use as a postemergence application in Texas.

**Preharvest**

**USE INSTRUCTIONS:** This product can be applied preharvest at use rates up to 22 fluid ounces per acre. Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest or feeding of corn stover or grain. In Roundup Ready Corn 2, a preharvest application may only be made if the combined total of previously applied over-the-top or drop nozzle applications does not exceed 44 fluid ounces of this product per acre.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

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**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## 11.3 Cotton-Roundup Ready

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Selective Equipment (hooded sprayers), Preharvest.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton.

**Selective Equipment (Hooded sprayers)**

**USE INSTRUCTIONS:** This product may be applied using precision hooded sprayers at rates up to 22 fluid ounces per acre per application to Roundup Ready cotton through layby. For best results, make applications while weeds are small (less than 3 inches).

**PRECAUTIONS, RESTRICTIONS:** See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

**Preharvest**

**USE INSTRUCTIONS:** This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20 percent boll crack. Up to 44 fluid ounces of this product may be applied using either aerial or ground spray equipment. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Do not apply this product to cotton grown for seed, as a reduction in germination or vigor may occur. **DO NOT ADD SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR APPLICATIONS MADE AT A PREHARVEST TIMING IN COTTON.**

**ATTENTION: USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL**

**DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON, HOWEVER, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.**

## 11.4 Soybeans-Roundup Ready

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence, Preharvest, Post-Harvest.

Maximum Allowable Combined Application Quantities Per Season	
Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total in-crop applications from cracking throughout flowering	64 fluid ounces per acre
Maximum preharvest application rate	22 fluid ounces per acre

**PRECAUTIONS/RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops.

**Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting soybeans.

**Postemergence**

**USE INSTRUCTIONS:** When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Applications of this product can be made in Roundup Ready soybeans from emergence (cracking) throughout flowering. Refer to the "ANNUAL

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**WEEDS RATE SECTION** in this label for rate recommendations for specific annual weeds. In general, an initial application of 22 fluid ounces per acre on 2 to 3 inch tall weeds is recommended. Weeds will generally be 2 to 8 inches tall, 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 44 fluid ounces per acre in any single in-crop application for control of annual weeds and where heavy weed densities exist.

A 22- to 44-fluid-ounce per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: Bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horse-nettle, mare's tail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpet creeper, swamp smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this may be necessary to control late flushes of weeds. IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY SOYBEAN CROP. To control giant ragweed, it is recommended that 22 fluid ounces per acre of this product be applied when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for a sequential application.

**PRECAUTIONS, RESTRICTIONS:** The combined total application from crop emergence through harvest must not exceed 64 fluid ounces per acre. The maximum rate for any single in-crop application is 44 fluid ounces per acre. The maximum combined total of this product that can be applied during flowering is 44 fluid ounces per acre.

**NOTE:** The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Always read and carefully observe cautionary statements and other information appearing on the surfactant label.

#### **Preharvest**

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans. Up to 22 fluid ounces per acre of this prod-

uct can be applied by aerial or ground application.

**PRECAUTIONS, RESTRICTIONS:** Care should be taken to avoid excessive seed shatter loss due to ground application equipment. Allow a minimum of 14 days between final application and harvest of soybean grain or feeding of soybean grain, forage or hay.

#### **Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of Roundup Ready soybeans. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

## **12.0 NON-CROP USES AROUND THE FARMSTEAD**

**TYPES OF APPLICATIONS:** General Weed Control, Trim-and-Edge, Greenhouse/Shadehouse, Chemical Mowing, Cut Stump, Habitat Management.

### **12.1 General Weed Control and Trim-and-Edge**

**USE INSTRUCTIONS:** This product may be used to control annual weeds, perennial weeds and woody brush which are found in any part of the farmstead, including building foundations, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 22 fluid ounces per acre of this product when weeds are less than 6 inches tall, 32 fluid ounces per acre when weeds are 6 to 12 inches tall and 44 fluid ounces per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 44 fluid ounces to 3.3 quarts per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, hand-

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guns or other high-volume spray-to-wet applications, see the "ANNUAL WEEDS—HAND-HELD OR HIGH VOLUME EQUIPMENT" section of this label for recommended rates.

Arsenal®	Plateau®
Banvel/Clarity	Princep® DF
Barricade™ 65WG	Princep Liquid
Diuron	Ronstar 50 WP
Endurance®	Sahara
Escort®	Simazine
Karmex DF	Surtlan®
Krovar 1 DF	Telar®
Oust®	Vanquish®
Pendulum® 3.3 EC	2,4-D
Pendulum WDG	

This product plus dicamba tank mixtures may not be applied by air in California.

## 12.2 Greenhouse/ Shadehouse

This product may be used to control weeds in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

## 12.3 Chemical Mowing

**USE INSTRUCTIONS:** This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 4 fluid ounces of this product per acre when treating Kentucky bluegrass. Use 4 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, bahiagrass or quackgrass covers. Use 11 fluid ounces of this product per acre when treating Bermudagrass. Use 44 fluid ounces of this product per acre when treating torpedograss or paragrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

**PRECAUTIONS, RESTRICTIONS:** Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

## 12.4 Cut Stump

**TYPES OF APPLICATION:** Treating cut stumps in any non-crop site listed on this label

**USE INSTRUCTIONS:** This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion

Alder	Reed, giant
Eucalyptus	Saltcedar
Madrone	Sweetgum
Oak	Tan oak
Pepper, Brazilian	Willow
Pine, Austrian	

**PRECAUTIONS, RESTRICTIONS:** Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

## 12.5 Habitat Management

**TYPES OF USES:** Habitat Restoration and Maintenance, Wildlife Food Plots.

**Habitat Restoration and Maintenance**

**USE INSTRUCTIONS:** This product may be used to control exotic and

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other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement.

#### Wildlife Food Plots

**USE INSTRUCTIONS:** This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species, including Roundup Ready canola, may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage. For specific product application instructions in Roundup Ready canola wildlife food plots, see the "Canola-Roundup Ready" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Do not process treated Roundup Ready canola seed from wildlife food plots for food or domestic livestock feed. Do not graze or feed treated Roundup Ready canola from wildlife food plots to domestic livestock. There are no rotational restrictions for planting any wildlife food species or for allowing native species to repopulate the area following applications of this product.

## 13.0 INDUSTRIAL, TURF AND ORNAMENTAL

Detailed instructions follow alphabetically, by site.

Unless otherwise specified, applications may be made to control any weeds listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" of this label. Refer also to the "Selective Equipment" section.

### 13.1 Cut Stump

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species, some of

which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder	Saltcedar
Eucalyptus	Sweetgum
Madrone	Tan oak
Oak	Willow
Reed, giant	

DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

## 13.2 General Non-Crop Areas, Industrial Sites

Use in areas such as airports, apartment complexes, ditch banks, dry ditches, dry canals, fencerows, golf courses, industrial sites, lumber yards, manufacturing sites, office complexes, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, substations, warehouse areas, other public areas, and similar industrial and non-crop sites.

#### General Weed Control, Trim-and-Edge, Bare Ground

This product may be used in general non-crop areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in non-crop sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds

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growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites. Refer to these product's labels for approved non-crop sites and application rates.

Arsenal	Pendulum 3.3 EC
Clarity	Pendulum WDG
Barricade 65WG	Plateau
Diuron	Princep DF
Endurance	Princep Liquid
Escort	Ronstar™ 50WP
Garlon™ 3A	Sahara®
Garlon 4	Simazine
Karmex DF	Surflan
Krovar I DF	Telar
Manage®	Vanquish
Oust	2,4-D

This product plus dicamba tank mixtures may not be applied by air in California.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 22 to 44 fluid ounces of this product plus 2 to 4 ounces of Oust per acre.

Bahiagrass	Fescue, tall
Bermudagrass	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Quackgrass
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

### Chemical Mowing - Perennials

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 4 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 4 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

### Chemical Mowing - Annuals

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 3 to 4 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

### Bromus Species and Medusahead in Pastures and Rangelands

**Bromus species.** This product may be used to treat downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*) and cheatgrass (*Bromus setchuensis*) found in industrial, rangeland and pasture sites. Apply 6 to 11 fluid ounces of this product per acre on a broadcast basis.

For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses can become reestablished on the site.

**Medusahead.** To treat medusahead, apply 11 fluid ounces of this product per acre as soon as plants are actively growing, and prior to the 4-leaf stage. Applications may be made in the fall or spring.

Applications to brome and medusahead may be made using ground or aerial equipment. Aerial applications for these uses may be made using

fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre. When applied as directed in this label, there are no grazing restrictions.

#### **Dormant Turfgrass**

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant Bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring greenup.

Apply 6 to 44 fluid ounces of this product per acre. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 11 fluid ounces per acre may result in injury or delayed greenup in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "Roadsides" section of this label, which gives rates for dormant Bermudagrass and bahiagrass treatments.

#### **Actively Growing Bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. DO NOT apply more than 11 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "Roadsides" section of this label, which gives rates for actively growing Bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

#### **Turfgrass Renovation, Seed, Sod Production**

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as

Bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

## **13.3 Habitat Management**

#### **Habitat Restoration and Management**

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

#### **Wildlife Food Plots**

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

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## 13.4 Injection and Frill (Woody Brush and Trees)

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 0.04 fluid ounce (1 mL) of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50- to 100-percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100-percent concentration of this product. For best results, application should be made during periods of active growth and after full leaf expansion. This product will control many species, some of which are listed below:

Control  
Oak  
Poplar  
Sweetgum  
Sycamore

Partial Control  
Blackgum  
Dogwood  
Hickory  
Maple, red

## 13.5 Ornamentals, Plant Nurseries, and Christmas Trees

### Post-Directed, Trim-and-Edge

This product may be used as a post-directed spray around established woody ornamental species such as arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce and yew. This product may also be used to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting.

Desirable plants may be protected from the spray solution by using

shields or coverings made of cardboard or other impermeable material. UNLESS OTHERWISE DIRECTED, THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

### Site Preparation

This product may be used prior to planting any ornamental, nursery or Christmas tree species.

### Wiper Applicators

This product may be used through wick or other suitable wiper applicators to control or partially control undesirable vegetation around established eucalyptus or poplar trees. See the "Selective Equipment" section of this label for further information about the proper use of wiper applicators.

### Greenhouse/Shadehouse

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

## 13.6 Parks, Recreational and Residential Areas

This product may be used in parks, recreational and residential areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around trees, fences, and paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation. This product may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

All of the instructions in the "General Non-Crop Areas And Industrial Sites" section apply to park and recreational areas.

## 13.7 Railroads

All of the instructions in the "General Non-Crop Areas And Industrial Sites" section apply to railroads.

### Bare Ground, Ballast and Shoulders, Crossings, Spot Treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites, for ballast, shoulder, spot, bare ground and crossing treatments:

Arsenal	Krovar I DF
Clarity	Oust
Oluron	Sahara
Escort	Spike®
Garlon 3A	Telar
Garlon 4	Vanquish
Hyvar™ X	2,4-D

### Brush Control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 2.5 to 7 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a 0.7- to 1.5-percent solution of this product when using high-volume spray-to-wet applications. Apply a 4- to 7-percent solution of this product when using low volume directed sprays for spot treatment. This product may be mixed with the following products for enhanced control of woody brush and trees:

Arsenal	Garlon 4
Escort	Ionon® K
Garlon 3A	

### Bermudagrass Release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 11 to 32 fluid ounces of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank mixed with Oust. If tank mixed, use no more than 11 to 32 fluid ounces of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Blackberry	Johnsongrass
Bluestem, silver	Poonjoe
Broomsedge	Raspberry
Dallisgrass	Trumpet creeper
Dewberry	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may occur.

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## 13.8 Roadsides

All of the instructions in the "General Non-Crop Areas And Industrial Sites" section apply to roadsides.

### Shoulder Treatments

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

### Guardrails and Other Obstacles to Mowing

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

### Spot Treatment

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for such non-crop treatments:

Clarity	Princep DF
Diuron	Princep Liquid
Endurance	Ronstar 50 WP
Escort	Sahara
Krovar I DF	Simazine
Oust	Surflan
Outrider®	Telar
Pendulum 3.3 EC	Vanquish
Pendulum WDG	2,4-D

See the "General Non-Crop Areas And Industrial Sites" section of this label for general instructions for tank mixing.

### Release of Bermudagrass or Bahiagrass

#### Dormant Applications

This product may be used to control or partially control many winter

annual weeds and tall fescue for effective release of dormant Bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring green-up. This product may also be tank mixed with Outrider® or Oust® for residual control. Tank mixtures of this product with Oust may delay green-up.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 6 to 44 fluid ounces of this product in a tank mixture with 0.75 to 1.3 ounces Outrider herbicide per acre. Read and follow all label directions for Outrider herbicide.

Apply 6 to 44 fluid ounces of this product per acre alone or in a tank mixture with 0.25 to 1 ounce per acre of Oust. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add no more than 1 ounce of Oust per acre on Bermudagrass and no more than 0.5 ounce of Oust per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

#### Actively Growing Bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 11 to 32 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank mixed with Outrider for control or partial control of Johnsongrass and other weeds listed in the Outrider label. Use 6 to 22 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider.

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Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height.

This product may be tank mixed with Dust. If tank mixed, use no more than 11 to 22 fluid ounces of this product with 1 to 2 ounces of Dust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Dust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Bluestem, silver	Johnsongrass
Broomsedge	Prosope
Dallisgrass	Trumpet creeper
Dock, curly	Vaseygrass
Ogden	Vervain, blue

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not recommended, since severe injury may occur.

### Actively Growing Bahiagrass

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 2 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

This product may be used for control or partial control of Johnsongrass and other weeds listed on the Outrider label in actively growing bahiagrass. Apply 1 to 3.3 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider per acre. Use the higher rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well established bahiagrass.

A tank mixture of this product plus Dust may be used. Apply 4 fluid ounces

of this product plus 0.25 ounce of Dust per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

## 14.0 ANNUAL WEEDS RATE SECTION

When water carrier volumes are between 16 and 40 gallons per acre for ground applications and between 6 and 15 gallons per acre for aerial applications, the following use rates will control the annual weeds listed in the table below:

- 22 fluid ounces per acre—grass and broadleaf annual weeds less than 6 inches in height or circumference and vines less than 3 inches in length.
- 32 fluid ounces per acre—grass and broadleaf annual weeds 6 to 12 inches in height or circumference and vines 3 to 6 inches in length.
- 44 fluid ounces per acre—grass and broadleaf annual weeds greater than 12 inches in height or circumference and vines greater than 6 inches in length.

WHEN WATER CARRIER VOLUMES ARE BETWEEN 3 AND 15 GALLONS PER ACRE FOR GROUND APPLICATIONS AND BETWEEN 3 AND 5 GALLONS PER ACRE FOR AERIAL APPLICATIONS, USE THE RATES SPECIFIED FOR INDIVIDUAL WEEDS AS FOLLOW IN THE "ANNUAL WEEDS RATE TABLE" (Alphabetically by Species).

Apply to actively growing annual weeds. Annual weeds are generally easiest to control when they are small.

Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

Maximum size refers to the maximum plant height, length of runners for vines or circumference of rosette plants in inches.

Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.

For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

This product may be used up to 44 fluid ounces per acre where heavy weed densities exist.

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ANNUAL WEEDS RATE TABLE

WEED SPECIES	RATE (fluid ounces per acre)				
	11	16	22	27	32
	Maximum size (in inches)				
Ammanlia, purple	3	6	12	18	
Annoda, spurred	2	3	5	8	
Barley, wild	18	18			
Barnyardgrass	3	6	7	9	
Bassia, fivehook		6			
Beggarweed, Florida	5	8			
Bittercress	12	20			
Bluegrass, annual	10				
Bluegrass, bulbous	6				
Brome, downy	6	12			
Brome, Japanese	6	12	24		
Browntop panicum	6	8	12	24	
Buckwheat, wild	1	2			
Burcucumber	6	12		18	
Buttercup	12	20			
Carolina geranium		4		9	
Carpetweed	6	12			
Cheat	6	20			
Chenille	20				
Chickweed	12	18			
Cocklebur	12	18	24	36	
Copperleaf, hophornbeam	2	4		6	
Copperleaf, Virginia	2	4		6	
Coreopsis, plains	6	12		18	
Corn, volunteer	6	12	20		
Corn speedwell	12				
Crabgrass	6	12			
Crowfootgrass		6		12	
Curtain evening primrose		3		6	
Devilscow (unicorn plant)	3	6			
Dwarf dandelion	12				
Eastern manna grass	8	12			
Eclipta	4	8	12		

Fall panicum	4	6	12		
Falsedandelion	6	12			
Fiddleneck	6	12			
Field pennycress	6	12			
Filaree	6	12			
Fleabane, annual	6	20			
Fleabane, hairy (Conyza bonariensis)		6		10	
Fleabane, rough	3	6	12		
Florida pusley		4		6	
Foxtail, giant, bristly, yellow	6	12	20		
Foxtail, Carolina	10				
Foxtail, green	12				
Goatgrass, jointed	6	12			
Goosegrass	6	12	20		
Grain sorghum (milo)	6	12	20		
Groundcherry	6	12	20		
Groundsel, common	6	10			
Hemp sesbania	6	12	20		
Henbit	6	12			
Horseweed, Marechal (Conyza canadensis)	6	12	20		
Itchgrass	6	12			
Jimsonweed	6	12	20		
Johnsongrass, seedling	6	12	18	24	
Juncos	6	12	20		
Knotweed	6	12			
Kochia	3 to 6	12			
Lambsquarters	6	12		20	
Little barley	6	12			
London rocket	6	12	24		
Mayweed	6	12	20		
Morningglory, annual (Ipomoea spp)		3		6	
Mustard, blue	6	12	18		
Mustard, tansy	6	12	18		

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# ANNUAL WEEDS RATE SECTION 94

## ANNUAL WEEDS RATE TABLE

WEED SPECIES	RATE (fluid ounces per acre)				
	11	16	22	27	32
	Maximum size (in inches)				
Mustard, tumble	6	12	18		
Mustard, wild	6	12	18		
Nightshade, black		4	6		12
Nightshade, hairy		4	6		12
Oats	3	6	18		
Pigweed species		12	18	24	
Prickly lettuce		6	12		
Purslane			3		6
Ragweed, common		6	12		18
Ragweed, giant		6	12		18
Red rice			4		
Rye volunteer/cereal		6	18	18	
Ryegrass			6		12
Sandbur, field		6	12		
Sandbur, longspine		6	12		
Shattercane		6	12	20	
Shepherd's-purse		6	12		
Sicklepod		2	4		8
Signalgrass, broadleaf		3	6	7	9
Smartweed, lachyrrumb					9
Smartweed, Pennsylvania			6		9
Sowthistle, annual			6		12
Spanishneedles			6		12
Speedwell, purslane		12			
Sprangletop	6	12	20		
Spurge, prostrate		6	12		
Spurge, spotted		6	12		
Spiny umbrell		6			
Stinkgrass		12			
Sunflower		12	18		
Swinecress		5	12		

Tea weed, prickly sida	2	4		6
Texas panicum	6	8	12	24
Thistle, Russian	6	12		
Velvetleaf		6		12
Virginia pepperweed	18			
Waterhemp		6		12
Wheat, fall	6	12	18	
Wheat (overwintered)	6	12		18
Wild oats	6	12	18	
Wild proso millet	6	12		18
Witchgrass	12			
Woolly cupgrass	6	12		
Yellow rocket	12	20		

<sup>1</sup>For control of downy brome in no-till systems, use 16 fluid ounces per acre.

<sup>2</sup>Performance is better if application is made before this weed reaches the boot stage of growth.

<sup>3</sup>Use 16 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 22 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 22 fluid ounces followed by 22 fluid ounces of this product per acre.

<sup>4</sup>Do not treat kochia in the button stage.

<sup>5</sup>Control of Russian thistle may vary based on environmental conditions and spray coverage. Whenever possible, a tank mixture with 2,4-D as described below may improve control.

## 14.1 Annual Weeds—Tank Mixtures with 2,4-D, Dicamba or Tordon 22K

8 to 11 fluid ounces of this product plus 0.25 pound of dicamba or 0.5 pound of 2,4-D or 1 to 2 fluid ounces of Tordon 22K per acre will control the following weeds with the maximum height or length indicated: 6 inches—prickly lettuce, marestail/horseweed, morning glory, kochia (dicamba only) wild buckwheat (Tordon 22K only); 12 inches—cocklebur, lambsquarters, pigweed, Russian thistle (2,4-D only).

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## ANNUAL WEEDS RATE SECTION 96

11 fluid ounces of this product plus 0.5 pound of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Ensure that the specific product is registered for application at the desired site. Some crop injury may occur if dicamba or fordon 22K is applied within 45 days of planting.

DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.

### 14.2 Annual Weeds—Hand-Held or High-Volume Equipment

For control of weeds listed in the "ANNUAL WEEDS RATE SECTION", apply a 0.4-percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 0.7-percent solution.

For best results, use a 1.5-percent solution on harder-to-control perennials, such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods that result in less than complete coverage, use a 4-percent solution for annual and perennial weeds and a 4- to 7-percent solution for woody brush and trees.

### 14.3 Annual Weeds—Tank Mixtures with Atrazine for Fallow and Reduced Tillage Systems

For use only in Colorado, Kansas, Nebraska, Oklahoma, Oregon, South Dakota, and Washington. In Oregon and Washington, do not exceed 1 pound of atrazine per acre.

16 to 20 fluid ounces of this product plus 1 to 2 pounds of atrazine per acre will control the following weeds: barnyardgrass (requires 20 fluid ounces for control), downy brome, green foxtail, lambsquarters, prickly lettuce, tansy mustard, pigweed, field sandbur, stinkgrass, Russian thistle,

volunteer wheat, witchgrass and Kochia (add 0.12 pound of dicamba for control). Ensure that the specific atrazine product is registered for application at the desired site.

## 15.0 PERENNIAL WEEDS RATE SECTION

Apply to actively growing perennial weeds.

NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage. Best results are obtained when soil moisture is adequate for active weed growth.

PERENNIAL WEEDS RATE TABLE  
(Alphabetically by Species)

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Palmetto	1.5	10	1.5%
Make applications after the last hay cutting in the fall. Allow palmetto to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.			
Waterhemp	3	20	1%
For partial control, apply when most of the plants are in bloom. Repeat applications will be required to achieve control.			
Alfalfa (fennel)	1.5	10	1.5%
Apply as a spray-to-wet treatment.			
Barnyardgrass	2-3	20	1.5%

Bentgrass

For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results.

# PERENNIAL WEEDS RATE SECTION 98

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Mixed % Solution
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**Bermudagrass** 2-3.3 3-20 1.5%  
For control, apply 3.3 quarts of this product per acre. For partial control, apply 64 fluid ounces per acre. Treat when Bermudagrass is actively growing and seed-heads are present. Retreatment may be necessary to achieve control.

**Bermudagrass, water (knotgrass)** 0.7-1 5-10 1.5%

Apply 32 fluid ounces of this product in 5 to 10 gallons of water per acre. Apply when water Bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

Fall applications only. Apply 22 fluid ounces of this product in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water Bermudagrass that is 12 to 18 inches in length.

This product is not registered in California for use on water Bermudagrass.

**Bindweed, field** 0.4-3.3 3-20 1.5%

Do not treat field bindweed under drought stress as good soil moisture is necessary for active growth.

For control, apply 2.5 to 3.3 quarts of this product per acre west of the Mississippi River and 2 to 2.5 quarts east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Also for control, apply 44 fluid ounces of this product plus 0.5 pound of dicamba in 10 to 20 gallons of water per acre. Do not apply by air.

For suppression on irrigated agricultural land, apply 22 to 44 fluid ounces of this product plus 1 pound of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

In California only, apply 22 fluid ounces to 3.3 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 22 fluid ounces of this product in 3 to 10 gallons of water per

acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.

**Bluegrass, Kentucky** 0.7-1.5 3-40 1.5%

Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

**Blueweed, Texas** 2-3.3 3-40 1.5%

Apply 2.5 to 3.3 quarts of this product per acre west of the Mississippi River and 2 to 2.5 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

**Brackenfern** 2-3.3 3-40 1.5%

Apply to fully expanded fronds that are at least 18 inches long.

**Bromegrass, smooth** 0.7-1.5 3-40 1.5%

Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

**Bursage, woolly-leaf** 3-20 1.5%

For control, apply 44 fluid ounces of this product plus 0.5 pound of dicamba per acre.

For partial control, apply 22 fluid ounces of this product plus 0.5 pound of dicamba per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

**Canarygrass, feed** 1.5-2 3-40 1.5%

**Cattail** 2-3.3 3-40 1.5%

**Clover, red, white** 2-3.3 3-20 1.5%

Also for control, apply 11 to 22 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.

# PERENNIAL WEEDS RATE SECTION 99

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# PERENNIAL WEEDS RATE SECTION 100

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
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Cogongrass 2-3.3 3-40 1.5%

Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to achieve control.

Dallisgrass 2-3.3 3-20 1.5%

Dandelion 2-3.3 3-40 1.5%

Also for control, apply 11 fluid ounces of this product plus 0.5 pounds of 2,4-D in 3 to 10 gallons of water per acre.

Dock, curly 2-3.3 3-40 1.5%

Also for control, apply 11 to 22 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.

Dogbane, hemp 3 3-40 1.5%

Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall.

For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

Fescue (except tall) 2-3.3 3-20 1.5%

Fescue, tall 0.7-2 3-40 1.5%

Apply 64 fluid ounces of this product per acre when most plants have reached boot-to-early seedhead stage of development.

Fall applications only: Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 11 fluid ounces per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.

Guineagrass 1.5-2 3-40 1.5%

Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment.

In Texas and ridge of Florida, use 44 fluid ounces for control. In the flatwoods region of Florida, 64 fluid ounces is required for control.

Horsenettle 2-3.3 3-20 1.5%

Horseradish 3 3-40 1.5%

Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Iceplant 1.5-2 3-40 1.5%

Thorough coverage is necessary for best control.

Jerusalem artichoke 2-3.3 3-20 1.5%

Johnsongrass 0.4-2 3-40 1.5%

In annual cropping systems apply 22 to 44 fluid ounces of this product per acre. Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage (no-till) is not practiced, apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using 22 fluid ounces of this product per acre.

For burndown of Johnsongrass, apply 11 fluid ounces of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot treatment (partial control or suppression)—Apply a 0.7-percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.

Kikuyugrass 1.5-2 3-40 1.5%

Spray when most kikuyugrass is at least 8 inches in height (3- or 4-leaf stage of growth). Allow 3 or more days after application before tillage.

Knapweed 3 3-40 1.5%

Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Lantana 1.5-2 3-40 1.5%

Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

Lespedeza 2-3.3 3-20 1.5%

# PERENNIAL WEEDS RATE SECTION 101



# PERENNIAL WEEDS RATE SECTION 102

Weed Species	Rate (QI/A)	Water Volume (GPA)	Hand-Held % Solution
Milkweed, common	2-3.3	3-40	1.5%

Apply when most plants have reached the late bud to flower stage of growth.

Muhly, wirestem	0.7-1.5	3-40	1.5%
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Use 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or non-crop areas. Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.

Mullein, common	2-3.3	3-20	1.5%
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Napiergrass	2-3.3	3-20	1.5%
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Nightshade, silverleaf	1.5	3-10	1.5%
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Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.

Nutsedge, purple or yellow	0.4-2	3-40	1.5%
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Apply 64 fluid ounces of this product per acre or apply a 1- to 1.5-percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets that have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of engeminated tubers.

Sequential applications: 22 to 44 fluid ounces of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3- to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For partial control of existing plants, apply 11 to 44 fluid ounces of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.

Orchardgrass	0.7-1.5	3-40	1.5%
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Orchardgrass sods going to no-till corn: Apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

Pampasgrass	2-3.3	3-20	1.5%
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Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

Paragrass	2-3.3	3-20	1.5%
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Phragmites	2-3.3	10-40	1.5%
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For partial control and best results, treat during late summer or fall when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to achieve control. Visual control symptoms will be slow to develop.

Poison hemlock	1	3-40	1.5%
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For hand held, apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Thorough coverage is necessary for best control.

Poisoned, common	1	3-40	1.5%
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Apply to actively growing plants up to 24 inches tall.

Quackgrass	0.7-2	3-40	1.5%
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In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 44 fluid ounces of this product. Do not tank mix with residual herbicides when using the 22-fluid-ounce rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.

# PERENNIAL WEEDS RATE SECTION 103

300



# PERENNIAL WEEDS RATE SECTION 104

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
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In pastures, sods or non-crop areas where deep tillage does not follow application. Apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.

**Redvine** 0.5-1.5 5-10 1.5%

For suppression, apply 16 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 44 fluid ounces per acre. Apply recommended rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

**Reed, giant** 1.5 3-10 1.5%

Best results are obtained when applications are made in late summer to fall.

**Ryegrass, perennial** 0.7-2 3-10 1.5%

In annual cropping systems apply 22 to 44 fluid ounces of this product per acre. Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage (no-till) is not practiced, apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using 22 fluid ounces of this product per acre.

**Smartweed, swamp** 1.2-3.3 3-10 1.5%

Also for control, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.

**Sowthistle, perennial** 1.5-2 3-10 1.5%

Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

**Spurge, leafy** 1.5 3-10 1.5%

For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.

**Starthistle, yellow** 1.5 3-10 1.5%

Best results are obtained when applications are made during the rosette, bolting and early flower stages.

**Sweet potato, wild** 1.5 3-10 1.5%

For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

**Thistle, artichoke** 1.5 3-10 1.5%

For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

**Thistle, Canada** 1.5-2 3-10 1.5%

Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression in the spring, apply 22 fluid ounces of this product, or 11 fluid ounces of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

**Timothy** 1.5 3-10 1.5%

**Torpedograss** 2.5-3.3 3-10 1.5%

For partial control, apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to achieve control. Fall treatments must be applied before frost.

**Trumpet creeper** 1.5 3-10 1.5%

For partial control, apply in late September or October, to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

**Vaseygrass** 2-3.3 3-20 1.5%

**Velvetgrass** 2-3.3 3-20 1.5%

# PERENNIAL WEEDS RATE SECTION 105

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# WOODY BRUSH AND TREES 106

Wheatgrass, western<sup>1</sup> 1.5-2 3-20 1.5%

<sup>1</sup> Apply when most plants have reached the early bud stage of growth.

<sup>2</sup> Apply when most plants have reached the early heading stage of growth.

## 16.0 WOODY BRUSH AND TREES RATE SECTION (Alphabetically by Species)

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Unless otherwise directed, apply broadcast treatments in 3 to 40 gallons of water per acre. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

WOODY BRUSH AND TREES RATE TABLE  
(Alphabetically by Species)

Weed Species	Rate (01/4)	Hand-Held % Solution
Alder	2-3	1%
Ash <sup>1</sup>	1.5-3.3	1-1.5%
Aspen, quaking	1.5-2	1%
Bearmat (Bearclover) <sup>1</sup>	1.5-3.3	1-1.5%
Beech	1.5-3.3	1-1.5%

Birch 1.5-2 1%

**Blackberry**  
Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.7 percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 2 to 2.5 quarts of this product in 10 to 40 gallons of water per acre.

Blackgum 1.5-3.3 1-1.5%

Bracken 1.5-3.3 1-1.5%

Broom,  
French, Scotch 1-1.5%

Buckwheat 1-1.5%

California 1-1.5%

Cascara<sup>1</sup> 1.5-3.3 1-1.5%

Catsclaw<sup>1</sup> 1%
Ceanothus<sup>1</sup>	1.5-3.3	1-1.5%
Chamise<sup>1</sup>		1%
Cherry, bitter, black, pin	1.5-2	1%
Coyote brush		1-1.5%
<sup>1</sup> Apply when at least 50 percent of the new leaves are fully developed.		
Dogwood<sup>1</sup>	1.5-3.3	1-1.5%
Elderberry	1.5-2	1%
Elm<sup>1</sup>	1.5-3.3	1-1.5%
Eucalyptus		1.5%
For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed eucalyptus plants.		
Florida holly (Brazilian Peppertree)<sup>1</sup>	1.5-3.3	1-1.5%
Corse	1.5-3.3	1-1.5%
Hasardial<sup>1,2</sup>		1-1.5%

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# WOODY BRUSH AND TREES 108

Weed Species	Rate (oz/A)	Hand-Held % Solution
Hawthorn	1.5-2	1%
Hazel	1.5-2	1%
Hickory	1.5-3.3	1-1.5%
Honeysuckle	2-3	1%
Hornbeam, American	1.5-3.3	1-1.5%
Kudzu	2.5-3.3	1.5%
Repeat applications may be required to achieve control.		
Locust, black	1.5-3	1-1.5%
Madrone resprouts <sup>1</sup>	—	1.5%
Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.		
Manzanita	1.5-3.3	1.5%
Maple, red	1.5-3	1%
Apply a 1 percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 44 to 66 fluid ounces of this product per acre.		
Maple, sugar	—	1%
Apply when at least 50 percent of the new leaves are fully developed.		
Monkey flower <sup>1,2</sup>	—	1-1.5%
Oak, black, white	1.5-3	1-1.5%
Oak, post	2-3	1%
Oak, northern	—	1%
Apply when at least 50 percent of the new leaves are fully developed.		
Oak, southern Red	1.5-2	1%
Persea	1.5-3.3	1-1.5%
Pine	1.5-3.3	1-1.5%
Poison ivy	—	1-1.5%
Poison oak	2.5-3.3	1.5%
Repeat applications may be required to achieve control. Fall treatments must be applied before leaves lose green color.		
Poplar, yellow	1.5-3.3	1-1.5%

Redbud, Eastern	1.5-3.3	1-1.5%
Rose, multiflora	1.5	1%
Treatments should be made prior to leaf deterioration by leaf-eating insects.		
Russian olive	1.5-3.3	1-1.5%
Sage, black <sup>2</sup>	—	1%
Sage, white	1.5-3.3	1-1.5%
Sage brush, California <sup>2</sup>	—	1%
Salmonberry	1.5-2	1%
Saltcedar	1.5-3.3	1-1.5%
Sassafras	1.5-3.3	1-1.5%
Sourwood <sup>1</sup>	1.5-3.3	1-1.5%
Sumac, poison	—	1-1.5%
Smooth, whorled	1.5-3	1-1.5%
Sweetgum	1.5-2	1%
Swordfern	1.5-3.3	1-1.5%
Tallowtree, Chinese <sup>2</sup>	—	1%
Tan oak resprouts <sup>1</sup>	—	1.5%
Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.		
Thimbleberry	1.5-2	1%
Tobacco tree <sup>2</sup>	—	1-1.5%
Trumpet creeper	1.5-2	1%
Vine maple	1.5-3.3	1-1.5%
Virginia creeper	1.5-3.3	1-1.5%
Wachwitzia	—	1-1.5%
Willow	2-3	1%

<sup>1</sup> Partial Control

<sup>2</sup> Through coverage of foliage is necessary for best results.

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**17.0 LIMIT OF WARRANTY AND LIABILITY**

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

For over-the-top uses on Roundup Ready crops, crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY

OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

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All other trademarks are the property of their respective owners.

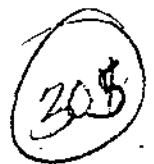
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# PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Keep out of reach of children.

## CAUTION!

CAUSES MODERATE EYE IRRITATION.

Avoid contact with eyes, skin or clothing.

<b>FIRST AID:</b> Call a poison control center or doctor for treatment advice.	
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.</li> <li>Remove contact lenses if present after the first 5 minutes; then continue rinsing eye.</li> </ul>
<b>IF ON SKIN:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 - 20 minutes.</li> </ul>

**DOMESTIC ANIMALS:** This product is considered to be relatively nonhazardous to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

**Personal Protective Equipment (PPE):** Some of the materials that are chemically-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistant category selection chart.

Applicators and other handlers must wear: long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables, use detergent and hot water; keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

When handling use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a sprayer equipment breakdown.

### User Safety Recommendations

- Users should:**
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
  - Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

### Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers. DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray

GROUP

9

HERBICIDE

# PROTOCOL<sup>®</sup> II HERBICIDE

Selective broad-spectrum weed control in Roundup Ready crops.  
Non-selective, broad-spectrum weed control for many agricultural systems.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY<sup>®</sup> CROPS); DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

Carefully follow detailed instructions in label booklet.

Read the entire label before using this product.  
Use only according to label instructions.  
Read the "LIMIT OF WARRANTY AND LIABILITY," which appears in the label booklet before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING.

Keep out of reach of children.  
**CAUTION!**

#### ACTIVE INGREDIENT:

Glyphosate, N-(phosphonomethyl)glycine,  
in the form of its potassium salt ..... 48.7%  
OTHER INGREDIENTS: ..... 51.3%  
100.0%

\*Contains 660 grams per liter or 5.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its potassium salt. Equivalent to 540 grams per liter or 4.5 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patents Nos. 5,305,551 and ME 37,666. Other patents pending.  
No license granted under any non-U.S. patents.

EPA Reg. No. 524-539

EPA Est. (1) 524-LA-1 or (M) 524-LA-1  
E or number prefix L or M indicates appropriate establishment number.

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ST. LOUIS, MISSOURI 63167 USA

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Solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury. If ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

#### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when the product is used to produce agricultural plants on farms, forests, nurseries or greenhouses. Keep people and pets off treated areas until spray solution has dried.

### Storage and Disposal

**PESTICIDE STORAGE:** Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures.

Empty container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

Do not reuse container. Return container per the Monsanto container return program. If not returned, triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

For product information or assistance in using this product,  
call toll-free 1-800-333-3111

(See label booklet for Complete Directions for Use.)

MONSANTO



NET 30 GAL

63011C1-25142

5307

## PRECAUTIONARY STATEMENTS

## Hazards to Humans and Domestic Animals

Keep out of reach of children.

**CAUTION!**

CAUSES MODERATE EYE IRRITATION.

Avoid contact with eyes, skin or clothing.

FIRST AID: Call a poison control center or doctor for treatment advice.

IF IN EYES	• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.
• IF ON SKIN	• Remove contact lenses if present after the first 5 minutes, then continue rinsing eye.
• IF ON SKIN	• Take off contaminated clothing.
• IF ON SKIN	• Rinse skin immediately with plenty of water for 15 - 20 minutes.
• IF ON SKIN	• Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
• IF ON SKIN	• You may also contact (814) 694-4000, collect day or night, for emergency medical treatment information.
• IF ON SKIN	• This product is identified as Protocol II herbicide, EPA Registration No. 524-539.

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary digestive irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

**Personal Protective Equipment (PPE):** Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistant category selection chart.

Applicators and other handlers must wear: long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

When handlers use closed systems, enclosed cabs, or enclosures in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When required PPE is worn because a closed system is being used, handlers must be provided an PPE specified above for "Applications and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

**User Safety Recommendations**  
Users should:  
• Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.  
• Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**Environmental Hazards**  
Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

**Physical or Chemical Hazards**  
Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers. DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray

GROUP

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HERBICIDE

# PROTOCOL® II

## HERBICIDE

Selective broad-spectrum weed control in Roundup Ready crops.  
Non-selective, broad-spectrum weed control for many agricultural systems.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS). DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

Carefully follow detailed instructions in label booklet.

Read the entire label before using this product.  
Use only according to label instructions.  
Read the "LIMIT OF WARRANTY AND LIABILITY", which appears in the label booklet before buying or using. If terms are not acceptable, return all once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING.

Keep out of reach of children.  
**CAUTION!**

**ACTIVE INGREDIENT:**  
Glyphosate, N-(phosphonomethyl)glycine, in the form of its potassium salt ..... 48.7%  
**OTHER INGREDIENTS:** ..... 51.3%  
100.0%

\*Contains 560 grams per liter or 4.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its potassium salt. Equivalent to 540 grams per liter or 4.5 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patents Nos. 6,365,551 and RE 37,856. Other patents pending.  
No license granted under any non-U.S. patent(s).

EPA Reg. No. 524-539

EPA Est. (L) 524-LA-1 or (M) 524-LA-1  
Lol number prefix L or M indicates appropriate establishment number.

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5110 J.S. MISSOURI, 63167 USA

Protocol, Roundup Ready, Monsanto and the Vint symbol are registered trademarks of Monsanto Technology LLC.

Solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

## Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

## Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses. Keep people and pets off treated areas until spray solution has dried.

## Storage and Disposal

**PESTICIDE STORAGE:** Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures.

Empty container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

Do not reuse container. Return container per the Monsanto container return program. If not returned, triple rinse container; then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

For product information or assistance in using this product,

call 1-800-332-3111.

(See label booklet for Complete Directions for Use.)

MONSANTO



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# SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR PROTOCOL® II HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Protocol II herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

# PROTOCOL® II

## HERBICIDE

EPA Reg. No. 524-539

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**FOR AERIAL APPLICATION IN CALIFORNIA ONLY**  
(including Fresno county, California)

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Protocol II herbicide for essential product performance information.

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

AVOID DRIFT—DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETA-

TION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops:

1. Do not apply within 100 feet of all desirable vegetation or crop(s).
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.
5. Apply by air only to nonresidential areas.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets. Do not angle nozzles forward into the air-stream and do not increase spray volume by increasing nozzle pressure. Drift reduction additives may be used. When a drift reduction additive is used, read and carefully observe the

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cautionary statements and all other information appearing on the additive label.

**Ensure uniform application**—To avoid streaking, uneven, or over-lapped application, use appropriate marking devices. Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

## **PART I. CROP USES**

Aerial applications of this product are allowed in the following situations:

1. In fallow and reduced tillage systems prior to the emergence or transplanting of labeled crops.
2. In alfalfa and pasture renovation applications.
3. Over-the-top applications in Roundup Ready corn and cotton. Refer to further label instructions for Roundup Ready corn and Roundup Ready cotton for specific application instructions for over-the-top applications in these crops.
4. Preharvest in alfalfa, corn, cotton, wheat, Roundup Ready corn and Roundup Ready cotton. Refer to further label instructions for Protocol II herbicide for Roundup Ready corn and Roundup Ready cotton for specific preharvest application instructions and for each individual crop.

Do not plant subsequent crops other than those listed in the label booklet for 30 days following application.

When applied as recommended under the conditions described, this product controls annual and perennial weeds listed in the label booklet.

Use the recommended rates of this product in 3 to 15 gallons of water per acre.

When tank mixing this product with 2,4-D for aerial applications, only 2,4-D amine formulations may be used. This tank mixture may be used for fallow and reduced tillage systems and alfalfa and pasture renovation applications only.

**DO NOT EXCEED THE FOLLOWING MAXIMUM RATES WHEN MAKING APPLICATIONS BY AIR:**

22 fluid ounces per acre	44 fluid ounces per acre
	Alfalfa
Corn	
Roundup Ready® Corn	
	Cotton
	Roundup Ready® Cotton
	Fallow
	Reduced tillage systems
	Pastures
Wheat	

## **FOR FRESNO COUNTY, CALIFORNIA ONLY** **(From February 15 through March 31 Only)** **the following applies:**

### **Applicable Area**

This supplement only applies to the area contained inside the following boundaries within Fresno County, California.

North: Fresno County line

South: Fresno County line

East: State Highway 99

West: Fresno County line

### **General Information**

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

Observe the following directions to minimize off-site movement during aerial application of this product. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor and aerial applicator.

### **Written Recommendations**

A written recommendation **MUST** be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. This written recommendation **MUST** state the proximity of surrounding crops, and that conditions of each manufacturer's product label and this label have been satisfied.

### **Aerial Applicator Training and Equipment**

Aerial application of this product is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved fly-ins constitutes such documentation, or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

**Applications at Night**—Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

To report known or suspected misuse of this product, call 1-800-332-3111.

For additional information on the proper aerial application of this product, call 916-784-1718.

**Note:** For aerial application from April 1 through February 14, refer to the other sections of this supplemental label.

## **PART II. NON-CROP USES:**

Aerial applications of this product are allowed in the following situations:

1. Aid to burning for establishment and maintenance of fuel breaks
2. Establishing fire perimeters and black lines

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3. Aid to prescribed burning
4. Along fire roads
5. Range conversion
6. Habitat restoration and management
7. Wildlife food plots

Apply 22 fluid ounces to 3.3 quarts of this product in 5 to 15 gallons of water per acre using aerial (helicopter only) applications.

To broaden the spectrum of control, Garlon™ 4 may be tank mixed with this product at the rate of 0.5 to 2 quarts per acre. The rate of Garlon should not exceed one-half of the rate of this product (e.g. 1 quart of Garlon to 2 quarts of this product) for best results.

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**Read the "Limit of Warranty and Liability" in the label booklet for Protocol II herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.**

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# SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR PROTOCOL® II HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Protocol II herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

# PROTOCOL® II

## HERBICIDE

EPA Reg. No. 524-539

Protocol and Roundup Ready are registered trademarks of Monsanto Technology LLC. Garlon is a trademark of Dow AgroSciences, LLC.

FOR AERIAL APPLICATION IN CALIFORNIA ONLY  
(including Fresno county, California)

Keep out of reach of children.

## CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Protocol II herbicide for essential product performance information.

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

AVOID DRIFT—DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETA-

TION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops:

1. Do not apply within 100 feet of all desirable vegetation or crop(s).
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.
5. Apply by air only to nonresidential areas.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets. Do not angle nozzles forward into the air-stream and do not increase spray volume by increasing nozzle pressure. Drift reduction additives may be used. When a drift reduction additive is used, read and carefully observe the

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cautionary statements and all other information appearing on the additive label.

**Ensure uniform application**—To avoid streaking, uneven, or over-lapped application, use appropriate marking devices. Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

## **PART I. CROP USES**

Aerial applications of this product are allowed in the following situations:

1. In fallow and reduced tillage systems prior to the emergence or transplanting of labeled crops.
2. In alfalfa and pasture renovation applications.
3. Over-the-top applications in Roundup Ready corn and cotton. Refer to further label instructions for Roundup Ready corn and Roundup Ready cotton for specific application instructions for over-the-top applications in these crops.
4. Preharvest in alfalfa, corn, cotton, wheat, Roundup Ready corn and Roundup Ready cotton. Refer to further label instructions for Protocol II herbicide for Roundup Ready corn and Roundup Ready cotton for specific preharvest application instructions and for each individual crop.

Do not plant subsequent crops other than those listed in the label booklet for 30 days following application.

When applied as recommended under the conditions described, this product controls annual and perennial weeds listed in the label booklet.

Use the recommended rates of this product in 3 to 15 gallons of water per acre.

When tank mixing this product with 2,4-D for aerial applications, only 2,4-D amine formulations may be used. This tank mixture may be used for fallow and reduced tillage systems and alfalfa and pasture renovation applications only.

**DO NOT EXCEED THE FOLLOWING MAXIMUM RATES WHEN MAKING APPLICATIONS BY AIR:**

22 fluid ounces per acre	44 fluid ounces per acre
	Alfalfa
Corn	
Roundup Ready® Corn	
	Cotton
	Roundup Ready® Cotton
	Fallow
	Reduced tillage systems
	Pastures
Wheat	

## **FOR FRESNO COUNTY, CALIFORNIA ONLY** **(From February 15 through March 31 Only)** **the following applies:**

### **Applicable Area**

This supplement only applies to the area contained inside the following boundaries within Fresno County, California.

North: Fresno County line

South: Fresno County line

East: State Highway 99

West: Fresno County line

### **General Information**

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

Observe the following directions to minimize off-site movement during aerial application of this product. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor and aerial applicator.

### **Written Recommendations**

A written recommendation **MUST** be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. This written recommendation **MUST** state the proximity of surrounding crops, and that conditions of each manufacturer's product label and this label have been satisfied.

### **Aerial Applicator Training and Equipment**

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**Applications at Night**—Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

To report known or suspected misuse of this product, call 1-800-332-3111.

For additional information on the proper aerial application of this product, call 916-784-1718.

**Note:** For aerial application from April 1 through February 14, refer to the other sections of this supplemental label.

## **PART II. NON-CROP USES:**

Aerial applications of this product are allowed in the following situations:

1. Aid to burning for establishment and maintenance of fuel breaks
2. Establishing fire perimeters and black lines

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3. Aid to prescribed burning
4. Along fire roads
5. Range conversion
6. Habitat restoration and management
7. Wildlife food plots

Apply 22 fluid ounces to 3.3 quarts of this product in 5 to 15 gallons of water per acre using aerial (helicopter only) applications.

To broaden the spectrum of control, Garlon™ 4 may be tank mixed with this product at the rate of 0.5 to 2 quarts per acre. The rate of Garlon should not exceed one-half of the rate of this product (e.g. 1 quart of Garlon to 2 quarts of this product) for best results.

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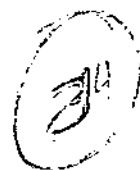
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# SUPPLEMENTAL LABELING

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# PROTOCOL® II

## HERBICIDE

EPA Reg. No. 524-539

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FOR AERIAL APPLICATION IN CALIFORNIA ONLY  
(including Fresno county, California)

Keep out of reach of children.

## CAUTION!

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### DIRECTIONS FOR USE

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cautionary statements and all other information appearing on the additive label.

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## **PART I. CROP USES**

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1. In fallow and reduced tillage systems prior to the emergence or transplanting of labeled crops.
2. In alfalfa and pasture renovation applications.
3. Over-the-top applications in Roundup Ready corn and cotton. Refer to further label instructions for Roundup Ready corn and Roundup Ready cotton for specific application instructions for over-the-top applications in these crops.
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Do not plant subsequent crops other than those listed in the label booklet for 30 days following application.

When applied as recommended under the conditions described, this product controls annual and perennial weeds listed in the label booklet.

Use the recommended rates of this product in 3 to 15 gallons of water per acre.

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**DO NOT EXCEED THE FOLLOWING MAXIMUM RATES WHEN MAKING APPLICATIONS BY AIR:**

22 fluid ounces per acre	44 fluid ounces per acre
	Alfalfa
Corn	
Roundup Ready® Corn	
	Cotton
	Roundup Ready® Cotton
	Fallow
	Reduced tillage systems
	Pastures
Wheat	

## **FOR FRESNO COUNTY, CALIFORNIA ONLY** **(From February 15 through March 31 Only)** **the following applies:**

### **Applicable Area**

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North: Fresno County line  
South: Fresno County line  
East: State Highway 99  
West: Fresno County line

### **General Information**

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

Observe the following directions to minimize off-site movement during aerial application of this product. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor and aerial applicator.

### **Written Recommendations**

A written recommendation **MUST** be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. This written recommendation **MUST** state the proximity of surrounding crops, and that conditions of each manufacturer's product label and this label have been satisfied.

### **Aerial Applicator Training and Equipment**

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**Applications at Night**—Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

To report known or suspected misuse of this product, call 1-800-332-3111.

For additional information on the proper aerial application of this product, call 916-784-1718.

**Note:** For aerial application from April 1 through February 14, refer to the other sections of this supplemental label.

## **PART II. NON-CROP USES:**

Aerial applications of this product are allowed in the following situations:

1. Aid to burning for establishment and maintenance of fuel breaks
2. Establishing fire perimeters and black lines

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3. Aid to prescribed burning
4. Along fire roads
5. Range conversion
6. Habitat restoration and management
7. Wildlife food plots

Apply 22 fluid ounces to 3.3 quarts of this product in 5 to 15 gallons of water per acre using aerial (helicopter only) applications.

To broaden the spectrum of control, Garlon™ 4 may be tank mixed with this product at the rate of 0.5 to 2 quarts per acre. The rate of Garlon should not exceed one-half of the rate of this product (e.g. 1 quart of Garlon to 2 quarts of this product) for best results.

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**Read the "Limit of Warranty and Liability" in the label booklet for Protocol II herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.**

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR PROTOCOL® II HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Protocol II herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

# PROTOCOL® II

## HERBICIDE

EPA Reg. No. 524-539

Protocol and Roundup Ready are registered trademarks of Monsanto Technology LLC.

FOR AERIAL APPLICATION IN ARKANSAS ONLY

Keep out of reach of children.

**CAUTION!**

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Protocol II herbicide for essential product performance information.

### USE DIRECTIONS

AVOID DRIFT. DO NOT APPLY INTO STILL AIR WHERE THERE IS A TEMPERATURE INVERSION LAYER LOW ENOUGH FOR FINE SPRAY PARTICLES TO BECOME SUSPENDED AND MOVE OUTSIDE THE TARGET AREA WHEN THE INVERSION LAYER MOVES. DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION THAT FAVORS DRIFT. DRIFT IS LIKELY TO

CAUSE DAMAGE TO ANY VEGETATION CONTACTED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the recommended rate of this product in 3 to 15 gallons of water per acre.

Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are recommended.

Applications should typically be made with the nozzle release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft safety.

The distance of the outermost nozzles on the boom must not exceed 75 percent of the length of the wingspan or rotor. In many cases, reducing this distance to 65 percent of the length of the wingspan or rotor will improve drift control without affecting the swath width.

Nozzles must always discharge backward parallel with the air stream and never discharge downwards more than 45 degrees on fixed wing aircraft or forward of the prevailing airflow on rotary winged aircraft. Avoid the use of nozzles with wide-angle discharge.

Do not apply this product when winds are in excess of 10 miles per hour.

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Do not apply when there is a low-level inversion where fine spray particles could be suspended in still air and move outside the target area when the inversion layer moves. These conditions may occur when wind speeds are less than 2 miles per hour.

Use the following guidelines when applications are made near crops or other desirable vegetation:

1. Do not apply within 100 feet of any desirable vegetation or crops.
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crops, do not apply within 500 feet upwind of the desirable vegetation or crops.
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.

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**Read the "Limit of Warranty and Liability" in the label booklet for Protocol II herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.**

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR PROTOCOL® II HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Protocol II herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

# PROTOCOL® II

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### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Protocol II herbicide for essential product performance information.

### USE DIRECTIONS

AVOID DRIFT. DO NOT APPLY INTO STILL AIR WHERE THERE IS A TEMPERATURE INVERSION LAYER LOW ENOUGH FOR FINE SPRAY PARTICLES TO BECOME SUSPENDED AND MOVE OUTSIDE THE TARGET AREA WHEN THE INVERSION LAYER MOVES. DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION THAT FAVORS DRIFT. DRIFT IS LIKELY TO

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Use the recommended rate of this product in 3 to 15 gallons of water per acre.

Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are recommended.

Applications should typically be made with the nozzle release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft safety.

The distance of the outermost nozzles on the boom must not exceed 75 percent of the length of the wingspan or rotor. In many cases, reducing this distance to 65 percent of the length of the wingspan or rotor will improve drift control without affecting the swath width.

Nozzles must always discharge backward parallel with the air stream and never discharge downwards more than 45 degrees on fixed wing aircraft or forward of the prevailing airflow on rotary winged aircraft. Avoid the use of nozzles with wide-angle discharge.

Do not apply this product when winds are in excess of 10 miles per hour.

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Do not apply when there is a low-level inversion where fine spray particles could be suspended in still air and move outside the target area when the inversion layer moves. These conditions may occur when wind speeds are less than 2 miles per hour.

Use the following guidelines when applications are made near crops or other desirable vegetation:

1. Do not apply within 100 feet of any desirable vegetation or crops.
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crops, do not apply within 500 feet upwind of the desirable vegetation or crops.
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.

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## SUPPLEMENTAL LABELING

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FOR AERIAL APPLICATION IN ARKANSAS ONLY

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### DIRECTIONS FOR USE

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This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

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### USE DIRECTIONS

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303

Do not apply when there is a low-level inversion where fine spray particles could be suspended in still air and move outside the target area when the inversion layer moves. These conditions may occur when wind speeds are less than 2 miles per hour.

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2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crops, do not apply within 500 feet upwind of the desirable vegetation or crops.
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR PROTOCOL® II HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

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# PROTOCOL® II

## HERBICIDE

EPA Reg. No. 524-539

Protocol and Roundup Ready are registered trademarks of Monsanto Technology LLC.

FOR IN-CROP AND POST-DIRECTED APPLICATIONS IN COTTON  
WITH THE ROUNDUP READY® GENE.

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Protocol II herbicide for essential product performance information.

MONSANTO COMPANY RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON CROPS DESIGNATED AS CONTAINING A ROUNDUP READY GENE.

Applying this product to crops that are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants that do not contain the Roundup Ready gene, since severe injury or destruction will result.

The Roundup Ready designation indicates that the crop contains a patented gene that provides tolerance to this product. Information on Roundup Ready crop may be obtained from your seed supplier or Monsanto representative. Roundup Ready crop must be purchased from an authorized licensed seed supplier.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product. Follow the cleaning procedures specified on the label of the product(s) previously used. THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.

**NOTE:** The following recommendations are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burn-down treatment of this product is recommended to control existing weeds prior to crop emergence. Some weeds, such as black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sanbur, annual morningglory, woolly cupgrass, shattercane, wild proso millet, burcucumber, and giant ragweed with multiple germination times or suppressed (stunted) weeds may require a second application of this product for complete control. The second application should be made after some regrowth has occurred and at least 10 days after a previous application of this product.

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## USE DIRECTIONS

### Maximum Allowable Combined Application Quantities Per Season

Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total in-crop applications from ground cracking to layby	2.5 quarts per acre
Maximum preharvest application rate	44 fluid ounces per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of the label booklet for general precautionary instructions for use in Roundup Ready crops. The combined total application of this product from cotton emergence until harvest must not exceed 4 quarts per acre. NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-LEAF (NODE) STAGE OF DEVELOPMENT. NO MORE THAN TWO APPLICATIONS SHOULD BE MADE FROM THE 5-LEAF STAGE THROUGH LAYBY. SEQUENTIAL IN-CROP OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS.

**ATTENTION:** Use of this product in accordance with label directions is expected to result in normal growth of Roundup Ready cotton, however, various environmental conditions, agronomic practices and other factors make it impossible to eliminate all risks associated with this product, even when applications are made in conformance with the label specifications. In some cases, these factors can result in boll loss, delayed maturity and/or yield loss.

### Over-the-Top

**USE INSTRUCTIONS:** This product may be applied by aerial or ground application equipment at rates up to 22 fluid ounces per acre per application postemergence to Roundup Ready cotton from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Over-the-top applications made after the 4-leaf (node) stage of development may result in boll loss, delayed maturity and/or yield loss.

For ground applications with broadcast equipment, apply this product in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment use flat spray nozzles. Check for even distribution of spray droplets.

For aerial applications apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for procedures to avoid spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

**ATTENTION:** AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.

**PRECAUTIONS, RESTRICTIONS:** Do not add surfactant or additives containing surfactant to this product for applications over-the-top of Roundup Ready cotton. Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers may result in reduced weed control or crop injury and are NOT recommended for over-the-top applications of this product unless otherwise noted in this product label, supplemental labeling or fact sheets published separately by Monsanto.

**Salvage Treatment.** This treatment may be used after the 4-leaf stage of development and should only be used where weeds threaten to cause the loss of the crop. 22 fluid ounces per acre may be applied either as an over-the-top applications or as a post-directed treatments sprayed higher on the cotton plants and over the weeds. **NOTE: SALVAGE TREATMENTS WILL RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS. NO MORE THAN ONE SALVAGE TREATMENT SHOULD BE USED PER GROWING SEASON.**

**NOTE:** For specific rates of application and instructions, refer to the "ANNUAL" and "PERENNIAL WEEDS RATE SECTIONS" in the label booklet.

### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied using precision post-directed or hooded sprayers at rates up to 22 fluid ounces per acre per application to Roundup Ready cotton through layby. At this stage, post-directed equipment should be used which directs the spray to the base of the cotton plants. Contact of the spray with cotton leaves should be avoided to the maximum extent possible. To minimize spray onto the leaves of the cotton plants, place nozzles in a low position directing a horizontal spray pattern under the cotton leaves to contact weeds in the row, and maintain low spray pressure (less than 30 psi). For best results, make applications while weeds are small (less than 3 inches).

**PRECAUTIONS, RESTRICTIONS:** See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for information on proper use and calibration of this equipment.

**Read the "Limit of Warranty and Liability" in the label booklet for Protocol II herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.**

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## SUPPLEMENTAL LABELING

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# PROTOCOL® II

## HERBICIDE

EPA Reg. No. 524-539

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FOR IN-CROP AND POST-DIRECTED APPLICATIONS IN COTTON  
WITH THE ROUNDUP READY® GENE.

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Protocol II herbicide for essential product performance information.

MONSANTO COMPANY RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON CROPS DESIGNATED AS CONTAINING A ROUNDUP READY GENE.

Applying this product to crops that are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants that do not contain the Roundup Ready gene, since severe injury or destruction will result.

The Roundup Ready designation indicates that the crop contains a patented gene that provides tolerance to this product. Information on Roundup Ready crop may be obtained from your seed supplier or Monsanto representative. Roundup Ready crop must be purchased from an authorized licensed seed supplier.

Sprayer Preparation: It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product. Follow the cleaning procedures specified on the label of the product(s) previously used. THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.

**NOTE:** The following recommendations are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burndown treatment of this product is recommended to control existing weeds prior to crop emergence. Some weeds, such as black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sanbur, annual morningglory, woolly cupgrass, shattercane, wild proso millet, burcucumber, and giant ragweed with multiple germination times or suppressed (stunted) weeds may require a second application of this product for complete control. The second application should be made after some regrowth has occurred and at least 10 days after a previous application of this product.

## USE DIRECTIONS

### Maximum Allowable Combined Application Quantities Per Season

Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total in-crop applications from ground cracking to layby	2.5 quarts per acre
Maximum preharvest application rate	44 fluid ounces per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of the label booklet for general precautionary instructions for use in Roundup Ready crops. The combined total application of this product from cotton emergence until harvest must not exceed 4 quarts per acre. NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-LEAF (NODE) STAGE OF DEVELOPMENT. NO MORE THAN TWO APPLICATIONS SHOULD BE MADE FROM THE 5-LEAF STAGE THROUGH LAYBY. SEQUENTIAL IN-CROP OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS.

**ATTENTION:** Use of this product in accordance with label directions is expected to result in normal growth of Roundup Ready cotton, however, various environmental conditions, agronomic practices and other factors make it impossible to eliminate all risks associated with this product, even when applications are made in conformance with the label specifications. In some cases, these factors can result in boll loss, delayed maturity and/or yield loss.

### Over-the-Top

**USE INSTRUCTIONS:** This product may be applied by aerial or ground application equipment at rates up to 22 fluid ounces per acre per application postemergence to Roundup Ready cotton from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Over-the-top applications made after the 4-leaf (node) stage of development may result in boll loss, delayed maturity and/or yield loss.

For ground applications with broadcast equipment, apply this product in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment use flat spray nozzles. Check for even distribution of spray droplets.

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**Salvage Treatment.** This treatment may be used after the 4-leaf stage of development and should only be used where weeds threaten to cause the loss of the crop. 22 fluid ounces per acre may be applied either as an over-the-top applications or as a post-directed treatments sprayed higher on the cotton plants and over the weeds. **NOTE:** SALVAGE TREATMENTS WILL RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS. NO MORE THAN ONE SALVAGE TREATMENT SHOULD BE USED PER GROWING SEASON.

**NOTE:** For specific rates of application and instructions, refer to the "ANNUAL" and "PERENNIAL WEEDS RATE SECTIONS" in the label booklet.

### Selective Equipment

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## SUPPLEMENTAL LABELING

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#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

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AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

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## USE DIRECTIONS

### Maximum Allowable Combined Application Quantities Per Season

Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total in-crop applications from ground cracking to layby	2.5 quarts per acre
Maximum preharvest application rate	44 fluid ounces per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of the label booklet for general precautionary instructions for use in Roundup Ready crops. The combined total application of this product from cotton emergence until harvest must not exceed 4 quarts per acre. NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-LEAF (NODE) STAGE OF DEVELOPMENT. NO MORE THAN TWO APPLICATIONS SHOULD BE MADE FROM THE 5-LEAF STAGE THROUGH LAYBY. SEQUENTIAL IN-CROP OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS.

**ATTENTION:** Use of this product in accordance with label directions is expected to result in normal growth of Roundup Ready cotton, however, various environmental conditions, agronomic practices and other factors make it impossible to eliminate all risks associated with this product, even when applications are made in conformance with the label specifications. In some cases, these factors can result in boll loss, delayed maturity and/or yield loss.

### **Over-the-Top**

**USE INSTRUCTIONS:** This product may be applied by aerial or ground application equipment at rates up to 22 fluid ounces per acre per application postemergence to Roundup Ready cotton from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Over-the-top applications made after the 4-leaf (node) stage of development may result in boll loss, delayed maturity and/or yield loss.

For ground applications with broadcast equipment, apply this product in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment use flat spray nozzles. Check for even distribution of spray droplets.

For aerial applications apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for procedures to avoid spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

**ATTENTION:** AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.

**PRECAUTIONS, RESTRICTIONS:** Do not add surfactant or additives containing surfactant to this product for applications over-the-top of Roundup Ready cotton. Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers may result in reduced weed control or crop injury and are NOT recommended for over-the-top applications of this product unless otherwise noted in this product label, supplemental labeling or fact sheets published separately by Monsanto.

**Salvage Treatment.** This treatment may be used after the 4-leaf stage of development and should only be used where weeds threaten to cause the loss of the crop. 22 fluid ounces per acre may be applied either as an over-the-top applications or as a post-directed treatments sprayed higher on the cotton plants and over the weeds. **NOTE:** SALVAGE TREATMENTS WILL RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS. NO MORE THAN ONE SALVAGE TREATMENT SHOULD BE USED PER GROWING SEASON.

**NOTE:** For specific rates of application and instructions, refer to the "ANNUAL" and "PERENNIAL WEEDS RATE SECTIONS" in the label booklet.

### **Selective Equipment**

**USE INSTRUCTIONS:** This product may be applied using precision post-directed or hooded sprayers at rates up to 22 fluid ounces per acre per application to Roundup Ready cotton through layby. At this stage, post-directed equipment should be used which directs the spray to the base of the cotton plants. Contact of the spray with cotton leaves should be avoided to the maximum extent possible. To minimize spray onto the leaves of the cotton plants, place nozzles in a low position directing a horizontal spray pattern under the cotton leaves to contact weeds in the row, and maintain low spray pressure (less than 30 psi). For best results, make applications while weeds are small (less than 3 inches).

**PRECAUTIONS, RESTRICTIONS:** See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for information on proper use and calibration of this equipment.

**Read the "Limit of Warranty and Liability" in the label booklet for Protocol II herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.**

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ST. LOUIS, MISSOURI 63167  
01/28/2004

63011C2-5

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

MAY 20 2004

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Mr. Stephen J. Wratten  
Monsanto Company  
600 13<sup>th</sup> Street, N. W., Suite 660  
Washington, DC 20005

Dear Mr. Wratten:

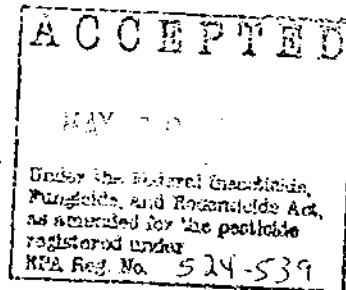
Subject: Roundup Original Max Herbicide (Application to Cotton with Roundup Ready Gene In Arizona)  
EPA Registration No. 524-539  
Application Dated May 6, 2004

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

*James A. Tompkins*  
James A. Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505C)

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL MAX HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup Original MAX herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

### Roundup Original MAX Herbicide

EPA Reg. No. 524-539

Roundup Original MAX and Roundup Ready are trademarks of Monsanto Technology LLC.

#### FOR COTTON WITH THE ROUNDUP READY GENE FOR APPLICATIONS IN THE STATE OF ARIZONA ONLY.

Keep out of reach of children.

**CAUTION!**

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

#### General Information

**ATTENTION:** MONSANTO RECOMMENDS THIS PRODUCT FOR USE ONLY OVER-THE-TOP OF OR DIRECTED ONTO IMPROVED COTTON VARIETIES THAT ARE DESIGNATED AS COTTON WITH THE ROUNDUP READY GENE. **SEVERE INJURY OR DEATH OF COTTON WILL RESULT IF ANY COTTON VARIETIES NOT PROPERLY DESIGNATED AS HAVING THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.** AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, OR ANY DESIRABLE PLANTS AND TREES, OTHER THAN CROPS WITH THE ROUNDUP READY GENE, SINCE SEVERE INJURY OR DESTRUCTION WILL RESULT.

ROUNDUP READY COTTON VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION, "ROUNDUP READY", INDICATES THE COTTON VARIETY CONTAINS A PATENTED PROPRIETARY TRAIT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX herbicide for essential product performance information.

**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Over-the-top, Selective Equipment, Preharvest

#### Maximum Allowable Combined Application Quantities Per Season

Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total in-crop applications from ground cracking to layby	2.5 quarts per acre
• Total in-crop over-the-top from ground cracking to 4-leaf stage	2.0 quarts per acre
• Total in-crop applications using selective equipment through layby	1.3 quarts per acre
Maximum preharvest application rate	44 fluid ounces per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of the Roundup Original MAX herbicide label booklet for general precautionary instructions for use in Roundup Ready crops. Do NOT combine these instructions with other recommendations made for crop varieties that do not contain the Roundup Ready gene, in the "ANNUAL AND PERENNIAL

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CROPS (Alphabetical)" section of the Roundup Original MAX herbicide label booklet. The combined total application of this product from cotton emergence until harvest must not exceed 4 quarts per acre.

NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-LEAF (NODE) STAGE OF DEVELOPMENT.

NO MORE THAN TWO POST-DIRECTED APPLICATIONS SHOULD BE MADE FROM THE 5-LEAF STAGE THROUGH LAYBY.

SEQUENTIAL IN-CROP OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS.

ALLOW A MINIMUM OF 7 DAYS BETWEEN APPLICATION AND HARVEST. APPLICATIONS MADE IN EXCESS OF MAXIMUM LABEL RATES ARE EXPECTED TO RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS AND ARE THE SOLE RESPONSIBILITY OF THE GROWER.

THE MAXIMUM USE RATES STATED THROUGHOUT THIS PRODUCT'S LABELING APPLY TO THIS PRODUCT COMBINED WITH THE USE OF ALL OTHER HERBICIDES CONTAINING GLYPHOSATE OR SULFOSATE AS THE ACTIVE INGREDIENT; WHETHER APPLIED AS MIXTURES OR SEPARATELY. CALCULATE THE APPLICATION RATES AND ENSURE THAT THE TOTAL USE OF THIS AND OTHER GLYPHOSATE OR SULFOSATE CONTAINING PRODUCTS DOES NOT EXCEED STATED MAXIMUM USE RATE.

#### Preplant, At-Planting, and Preemergence:

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton.

##### Over-the-Top:

**USE INSTRUCTIONS:** This product may be applied by aerial or ground application equipment at rates up to 22 fluid ounces per acre per application postemergence to Roundup Ready cotton from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Unless otherwise directed in this supplemental label, any single over-the-top broadcast application should not exceed 22 fluid ounces per acre. Combined over-the-top applications between ground cracking until the 4-leaf (node) stage should not exceed 2.0 quarts per acre.

**NOTE:** For specific rates of application and instructions, refer to the "ANNUAL" and "PERENNIAL WEEDS RATE TABLES" in the label booklet for Roundup Original MAX herbicide.

##### Selective Equipment:

**USE INSTRUCTIONS:** This product may be applied in-crop using precision post-directed or hooded sprayers to Roundup Ready cotton through layby. Unless otherwise directed in this supplemental label, any single application using selective equipment should not exceed 22 fluid ounces per acre.

Sequential in-crop applications using selective equipment may be made up to a maximum of 1.3 quarts per acre.

At this stage, post-directed equipment should be used which directs the spray to the base of the cotton plants. Contact of the spray with cotton leaves should be avoided to the maximum extent possible. To minimize spray onto the leaves of the cotton plants, place nozzles in a low position directing a horizontal spray pattern under the cotton leaves to contact weeds in the row, and maintain low spray pressure (less than 30 psi). For best results, make applications while weeds are small (less than 3 inches).

**PRECAUTIONS, RESTRICTIONS:** See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the Roundup Original MAX herbicide label booklet for information on proper use and calibration of this equipment. The combined total of in-crop over-the-top plus selective equipment applications must not exceed 2.6 quarts per acre.

##### Salvage Treatment:

**USE INSTRUCTIONS:** From the ground cracking stage through layby, where weeds threaten to cause the loss of the crop, applications of up to 32 fluid ounces per acre may be applied either as an over-the-top application or as a post-directed treatment sprayed higher on the cotton plants and over the weeds. **NOTE:** CROP TOLERANCE OF ROUNDUP READY COTTON HAS NOT BEEN FULLY TESTED AT THIS APPLICATION RATE. SALVAGE TREATMENTS ARE EXPECTED TO RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS AND ARE THE SOLE RESPONSIBILITY OF THE GROWER. NO MORE THAN TWO SALVAGE TREATMENTS SHOULD BE USED PER GROWING SEASON.

**PRECAUTIONS, RESTRICTIONS:** The combined total of in-crop over-the-top plus selective equipment applications must not exceed 2.6 quarts per acre.

##### Preharvest:

**USE INSTRUCTIONS:** This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20 percent boll crack. Up to 1.3 quarts per acre of this product may be applied using either aerial or ground spray equipment. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Do not apply Roundup Original MAX herbicide preharvest to Roundup Ready cotton grown for seed.

**ATTENTION: USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON, HOWEVER, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN**

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CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL MATURATION DELAYED MATURITY AND/OR YIELD LOSS.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Original MAX herbicide before using. For over-the-top uses on Roundup Ready crop varieties crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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1. DATE RECEIVED		2. DATE FORWARDED		3. ACTION TYPE		4. REVIEW TYPE		5. REVIEWER CODE		6. SIGNATURE OF REVIEWER		7. COMMENTS		8. DATE OF REVIEW			
5/18/04		AWP		Reviewing Ready (California) Arizona 3000		REVIEW TYPE		REVIEWER CODE		SIGNATURE OF REVIEWER		COMMENTS		DATE OF REVIEW			
A		REVIEWABILITY TEAM															
B		PRODUCT MANAGER TEAM EFFICACY REVIEW															
C		PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW															
D		PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW															
E		PRODUCT MANAGER TEAM REGULATION REVIEW															
F		PRODUCT MANAGER								UICW NAC		05/18/04					
G		INTERAGENCY REFERRAL															
H		COST-BENEFIT REVIEW															
I		PUBLIC COMMENTS REVIEW															
J		EPA REGIONAL DIRECTOR EFFICACY															
K		EPA REGIONAL DIRECTOR EFFICACY															
L		EPA REGIONAL DIRECTOR EFFICACY															
M		EPA REGIONAL DIRECTOR EFFICACY															
N		EPA REGIONAL DIRECTOR EFFICACY															
O		EPA REGIONAL DIRECTOR EFFICACY															
P		EPA REGIONAL DIRECTOR EFFICACY															
Q		EPA REGIONAL DIRECTOR EFFICACY															
R		EPA REGIONAL DIRECTOR EFFICACY															
S																	
T																	
PRODUCT MANAGER SIGNATURE										TYPE OF RESPONSE						CODE	

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United States  
Environmental Protection Agency  
Washington, DC 20460



Registration  
Amendment  
Other

OPP Identifier Number

294179

## Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original MAX Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 1300 I Street, N.W. Suite 450 East Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(ii), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary: (For section I and Section II.)

Supplemental label for Roundup Ready cotton in Arizona

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Nat Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Director, Regulatory Affairs	Telephone No. (Include Area Code) (202) 783-2460
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		8. Date Application Received (Stamped)
2. Signature 	3. Title Manager, Registrations	
4. Typed Name Stephen J. Wratten, Ph.D.	5. Date May 6, 2004	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

MONSANTO  
imagine



MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 660  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

May 6, 2004

Document Processing Center (AMEND)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup Original MAX Herbicide (EPA Reg. No. 524-539)  
Supplemental Label for Roundup Ready Cotton in Arizona

Dear Mr. Tompkins:

Roundup Original MAX is one of the brand names for products sold under EPA Reg. No. 524-539, and is a liquid end-use formulation of potassium glyphosate. Monsanto is generally replacing many of the older IPA-based glyphosate products with those using the potassium salt such as Roundup Original MAX.

On 11-Apr-2002, EPA approved a supplemental label for use of Roundup UltraMAX (524-512) in Arizona (copy of approval enclosed). The label included some different Directions for Use compared to the use patterns in other states, owing to the particular arid environmental conditions in that state. In order to facilitate the conversion from UltraMAX to Original MAX in Arizona, Monsanto seeks to extend the same label directions for cotton to the 524-539 EPA Registration Number. Five copies of draft labeling are enclosed for your review and approval. The text is the same, except the application volumes are reduced by a factor of 0.82 to account for the higher glyphosate loading in Original MAX compared to UltraMAX.

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After approval, Monsanto intends to integrate this labeling into the Master Label for this registration at our next opportunity.

We view that the extension of this registration to include Directions for Use that are already part of another Monsanto glyphosate registration as a me-too fast track amendment for which **no PRIA Registration Service Fee is required**. If the Agency evaluates this application differently, please inform Monsanto by sending an email to [Regulatory.Affairs@Monsanto.com](mailto:Regulatory.Affairs@Monsanto.com).

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider (202-383-2866) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

cc: R. P. Schneider

Original MAX cotton Arizona.doc

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAY 20 2004

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Mr. Stephen J. Wratten  
Monsanto Company  
600 13<sup>th</sup> Street, N. W., Suite 660  
Washington, DC 20005

Dear Mr. Wratten:

Subject: Roundup Original Max Herbicide (Preharvest and Spot Treatment In Dry Beans)  
EPA Registration No. 524-539  
Application Dated February 23, 2004

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Supplemental labeling must be incorporated into a master label and copies of master labeling submitted to the Agency for our files at your next printing or within two years from the date of acceptance of supplemental labeling, whichever comes first. The Agency will consider a convincing argument as to why a supplemental label should not appear on a master label on a case-by-case basis.

Sincerely,

*Victoria K. Walters*  
James A. Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505C)

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

294126

## Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original MAX Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Supplemental labeling for preharvest treatment in dry beans

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Director, Regulatory Affairs	Telephone No. (Include Area Code) (202) 793-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)
2. Signature 	3. Title Manager, Registrations		
4. Typed Name Stephen J. Wratten, Ph.D.	5. Date February 23, 2004		



## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size or the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Content Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too", reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

MONSANTO



MONSANTO COMPANY  
800 13TH STREET, N.W.  
SUITE 600  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

March 28, 2002

Document Processing Center (AMEND)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup UltraMAX Herbicide (EPA Reg. No. 524-512)  
Supplemental Label for Dry Beans  
Submission of Residue Data in RD 1578

Dear Mr. Tompkins:

As you will recall, on 20-May-1999, Monsanto had requested approval for use of Roundup Ultra herbicide (524-475) at preharvest and spot treatment timings in dry beans based on some minor crop data generated in Canada and the existing US Food Tolerance. Mr. Errico completed a review of the data and label proposal on 18-Jun-2001 (D256744), and concluded that the data were insufficient. Monsanto had feared this outcome, and has therefore completed the present residue study, which is enclosed for Agency review. We request the approval of the attached (three copies) new proposed label for Roundup UltraMAX (524-512) based on the lower rate from that study.

Enclosed for your consideration are:

1. MSL 17194 "Magnitude of Glyphosate Residues in Dried Shelled Beans Following Preharvest Application of Roundup UltraMAX™ Herbicide". Dry bean residue data from 13 US trial sites following either a 0.75 lb or a 1.5 lb glyphosate ae/acre treatment (formulated as Roundup UltraMAX) 7 days prior to harvest. Glyphosate residue levels were 0.01 – 1.56 ppm, based on the mean result following analysis of 2 samples from each 0.75 lb ae/acre trial plot. These results demonstrate that preharvest treatments will not produce residues above the US food tolerance (40 CFR 180.364) of 5.0 ppm for "vegetables, legume group (except soybeans)". One residue

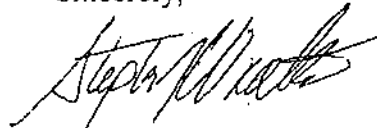
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trial mean from the higher 1.5 lb ae/acre treatment did exceed the tolerance, and that use rate is not proposed for labeling.

2. Label for Roundup UltraMAX herbicide. Either spot treatment or over-the-top preharvest broadcast treatments are permitted, but not both. Cowpeas, which are used for livestock feed, may not be treated. Only beans that are mature (< 30% grain moisture) may be treated via broadcast preharvest application. A minimum 7-Day PHI is proposed, along with a 30-day preplant interval for any crop not presently labeled. Feeding of vines or hay from treated crops is prohibited.
3. We note that OPPTS 860.1500, Table 1, Footnote 13, indicates that bean vines and hay do not require residue data or feed tolerances unless cowpeas are labeled, since that crop is grown exclusively as animal feed. The Monsanto proposal is consistent with that concept and with Mr. Errico's comments about bean legume forage in his Comments, Point 1, and in your letter on this subject dated 31-Oct-2001, point 6.

If you have any questions on this matter please feel free to contact me through Dr. Marsha C. Gray (202-383-2878) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

cc: M. C. Gray

RD 1578 Cov Let Dry Beans.doc

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# SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR Roundup Original MAX HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup Original MAX herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

## Roundup Original MAX HERBICIDE LOGO

EPA Reg. No. 524-539

Roundup Original MAX is a  
trademark  
of Monsanto Technology LLC

ACCEPTED

MAY 20 2004

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended for the pesticide  
registered under  
EPA Reg. No. 524-539

## PREHARVEST AND SPOT-TREATMENTS OF WEEDS IN DRY BEANS

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX herbicide for essential product performance information.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX herbicide for essential product performance information.

### DIRECTIONS FOR USE

See the "APPLICATION EQUIPMENT AND TECHNIQUES" Section of the Roundup Original MAX herbicide label booklet for more information.

To minimize drift, use nozzles that emit medium to large-sized droplets. The likelihood of drift occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing, or when there are other meteorological conditions that favor spray drift. Extreme care must be used when applying this product to avoid injury to desirable plants and crops.

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### BROADCAST SPRAY

**USE INSTRUCTIONS:** This product may be applied as an over-the-top broadcast spray to control labeled weeds prior to the harvest of dry beans. Apply up to 22 fluid ounces in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30 percent grain moisture or less). Either ground broadcast or aerial applications may be made.

### PRECAUTIONS, RESTRICTIONS:

- Apply at least 7 days before harvest.
- Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the Roundup Original MAX herbicide label.
- Preharvest application is not recommended for dry beans grown for seed, as a reduction in germination or vigor may occur.
- Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system.
- Do not treat cowpeas, since this crop is considered to be grown as livestock feed.

### SPOT TREATMENTS

**USE INSTRUCTIONS:** This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in dry beans. Apply up to 22 fluid ounces in 10 to 20 gallons of water through ground spray equipment or use a 2 percent solution in a hand-held sprayer. For best results, applications should be made at or beyond the bud stage of growth. The crop receiving spray in treated areas will be killed.

### PRECAUTIONS, RESTRICTIONS:

- Apply at least 7 days before harvest.
- Only one application per year may be made; do not combine spot treatments with a preharvest broadcast spray on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the Roundup Original MAX herbicide label.
- Do not feed treated vines and hay from these crops to livestock.
- Do not treat cowpeas, since this crop is considered to be grown as livestock feed.

**Read the "Limit of Warranty and Liability" in the label booklet for Roundup Original MAX herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.**

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ST. LOUIS, MISSOURI 63167

Note For Records

Name of Product: Roundup Original Map Herbicide

EPA Registration No./ File Symbol 524-539

Submission Date: 2/23/04

Received Date: 2/26/04

Date Worked: 5/14/04 AWP

Description of Action: Register use for Preharvest and Sprout Treatment in Dry Beans.

Comments: Available data reviewed under CO-020006. Review dated 9/20/02 and email dated 10/16/02 states that ~~current~~ current established tolerance support this use for 24 (c)s and no data requirement that would preclude approval of use in CO or other states. See 524-512 for detailed discussion of data, etc. Data to be reviewed for Section 3 by Bob Tonkinson.

Based on 5/17/04 discussion with Donald Stubb, Chief H13, register use and if deficiencies appear once review is completed, deal with them at that time.

Signature and Date: Register Use

Vickie K. Walters  
Acting PM 25  
5/14/04



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imagine



MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 600  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

February 23, 2004

Document Processing Center (AMEND)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

**Subject: Roundup Original MAX Herbicide (EPA Reg. No. 524-539)  
Supplemental Labeling for Preharvest Treatment in Dry Beans**

Dear Mr. Tompkins:

On 28-Mar-2002, Monsanto submitted residue data (MRID 45647501) and labeling to permit the use of Roundup UltraMAX Herbicide (524-512) in dry bean production via spot treatment and broadcast spray at a preharvest timing. The food tolerance (40 CFR 180.364) had already been established for import purposes, and the application requested domestic use approval based on the new residue data. I have attached a copy of my letter to provide additional background.

Dr. Russ Schneider has indicated to me that the Agency has nearly completed work on reviewing that 2002 application, and that approval is likely soon. Because the marketplace has changed significantly in the last two years, Monsanto would like to extend these dry bean use patterns to include other formulated products, including Roundup Original MAX. We therefore are submitting the same dry bean label for use on EPA Reg. No. 524-537. Five (5) copies are attached for Agency review and approval, hopefully at the same time as the Roundup UltraMAX labeling.

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The proposed application rates are the same as proposed on the pending label for Roundup UltraMAX, when expressed on the basis of pounds glyphosate acid equivalents per acre. 26 fluid ounces of Roundup UltraMAX and 22 fluid ounces of Roundup Original MAX each represents 0.75 lb glyphosate a.e.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider (202-383-2866) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

cc: R.P. Schneider

Original MAX dry beans.doc

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

MAY 20 2004

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Mr. Stephen J. Wratten  
Monsanto Company  
600 13<sup>th</sup> Street, N. W., Suite 660  
Washington, DC 20005

Dear Mr. Wratten:

Subject: Roundup Original Max Herbicide (Preharvest and Spot Treatment In Dry Peas, Lentils, and Chickpeas in ID, MN, MT, NE, ND, OR, SD, WA)  
EPA Registration No. 524-539  
Application Dated February 23, 2004

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Supplemental labeling must be incorporated into a master label and copies of master labeling submitted to the Agency for our files at your next printing or within two years from the date of acceptance of supplemental labeling, whichever comes first. The Agency will consider a convincing argument as to why a supplemental label should not appear on a master label on a case-by-case basis.

Sincerely,

*James A. Tompkins for*  
James A. Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505C)

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## SUPPLEMENTAL LABELING

For distribution and use only in the States of Idaho, Minnesota, Montana, Nebraska, North Dakota, Oregon, South Dakota, and Washington

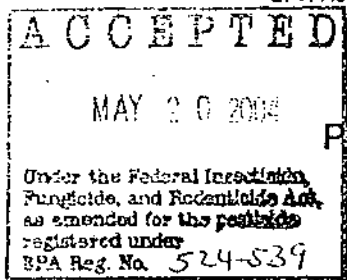
READ THE ENTIRE LABEL FOR Roundup Original MAX HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup Original MAX herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

### Roundup Original MAX HERBICIDE LOGO

EPA Reg. No. 524-539

Roundup Original MAX is a  
trademark  
of Monsanto Technology LLC



### PREHARVEST AND SPOT-TREATMENTS OF WEEDS IN DRY PEAS, LENTILS, AND CHICKPEAS.

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX herbicide for essential product performance information.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX herbicide for essential product performance information.

### DIRECTIONS FOR USE

See the "APPLICATION EQUIPMENT AND TECHNIQUES" Section of the Roundup Original MAX herbicide label booklet for more information.

To minimize drift, use nozzles that emit medium to large-sized droplets. The likelihood of drift occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing, or when there are other meteorological conditions that favor spray

350

drift. Extreme care must be used when applying this product to avoid injury to desirable plants and crops.

#### **BROADCAST SPRAY**

**USE INSTRUCTIONS:** This product may be applied as an over-the-top broadcast spray to control labeled weeds prior to the harvest of dry peas, lentils, and chickpeas. Apply up to 17 fluid ounces in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30 percent grain moisture or less). Either ground broadcast or aerial applications may be made.

#### **PRECAUTIONS, RESTRICTIONS:**

- Apply at least 14 days before harvest.
- Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the Roundup Original MAX herbicide label.
- Preharvest application is not recommended for peas, lentils, or chickpeas grown for seed, as a reduction in germination or vigor may occur.
- Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system.
- Do not treat field (feed) peas, since these are considered to be grown as livestock feed.

#### **SPOT TREATMENTS**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in peas, lentils, and chickpeas. Apply up to 17 fluid ounces in 10 to 20 gallons of water through ground spray equipment or use a 2 percent solution in a hand-held sprayer. For best results, applications should be made at or beyond the bud stage of growth. The crop receiving spray in treated areas will be killed.

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- Only one application per year may be made; do not combine spot treatments with a preharvest broadcast spray on the same crop area.
- Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the Roundup Original MAX herbicide label.
- Do not feed treated vines and hay from these crops to livestock.
- Do not treat field (feed) peas, since these are considered to be grown as livestock feed.

**Read the "Limit of Warranty and Liability" in the label booklet for Roundup Original MAX herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.**

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ST. LOUIS, MISSOURI 63167

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Note For Records

Name of Product: *Roundup Original Max Herbicide*

EPA Registration No./ File Symbol *524-539*

Submission Date: *2/23/04*

Received Date: *2/26/04*

Date Worked: *5/14/04 AWP*

Description of Action: *Register Use Preharvest and Post-Harvest in Dry <sup>Reas,</sup> ~~Reas,~~ Lands and Checkcows in ID, MT, ND, NE, SD, OK, KS, WA*

Comments: Available data reviewed by HED/RHB and COA 20006. Review dated ~~9/20/02~~ 9/20/02 stated that ~~current~~ present tolerances were not needed and that no requirements precluded registration of use in (On other states. See 524-512 for detailed discussion of review data etc. Data to be reviewed for section 3 by Bob Tomblin.

Based on 5/13/04 discussion with Donald Stiller, chief HB, register use and deal with differences that may appear once review is finished at that time.

*Register Use*

Signature and Date:

*Vickie K. Walters  
Acting PM 25  
5/14/04*

*352*



United States  
Environmental Protection Agency  
Washington, DC 20460



Registration  
Amendment  
Other

OPP Identifier Number

294128

### Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original MAX Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005  <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Supplemental labeling for preharvest treatments in dry peas, lentils and chickpeas

### Section - III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container	
		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____	

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Director, Regulatory Affairs	Telephone No. (include Area Code) (202) 783-2460
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		8. Date Application Received (Stamped) 
2. Signature 	3. Title Manager, Registrations	
4. Typed Name Stephen J. Wratten, Ph.D.	5. Date February 23, 2004	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

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**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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MONSANTO COMPANY  
600 17TH STREET, N.W.  
SUITE 600  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

February 23, 2004

Document Processing Center (AMEND)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

**Subject: Roundup Original MAX Herbicide (EPA Reg. No. 524-539)  
Supplemental Labeling for Preharvest Treatment in Dry Peas, Lentils  
and Chickpeas**

Dear Mr. Tompkins:

On 28-Mar-2002, Monsanto submitted rationale and labeling to permit the use of Roundup UltraMAX Herbicide (524-512) in dry peas, lentils, and chickpea production via spot treatment and broadcast spray at a preharvest timing in eight Northern states. The food tolerance (40 CFR 180.364) had already been established for import purposes, and the application requested domestic use approval based on the new residue data. I have attached a copy of my letter to provide additional background.

Dr. Russ Schneider has indicated to me that the Agency has nearly completed work on reviewing that 2002 application, and that approval is likely soon. Because the marketplace has changed significantly in the last two years, Monsanto would like to extend these dry legume use patterns to include other formulated products, including Roundup Original MAX. We therefore are submitting the same dry peas, lentils, and chickpeas label for use on EPA Reg. No. 524-539. Five (5) copies are attached for Agency review and approval, hopefully at the same time as the Roundup UltraMAX labeling.

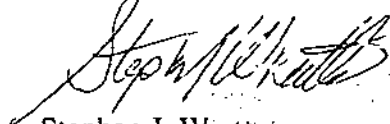
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23-Feb-04

The proposed application rates are the same as proposed on the pending label for Roundup UltraMAX, when expressed on the basis of pounds glyphosate acid equivalents per acre. 21 fluid ounces of Roundup UltraMAX and 17 fluid ounces of Roundup Original MAX each represent 0.66 lb glyphosate a.e.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider (202-383-2866) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

cc: R. P. Schneider

Original max dry peas.doc

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MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 660  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

March 28, 2002

Document Processing Center (AMEND)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup UltraMAX Herbicide (EPA Reg. No. 524-512)  
Supplemental Label for Peas, Lentils, and Chickpeas  
Request for Approval

Dear Mr. Tompkins:

As you will recall, on 10-May-1999, Monsanto had requested approval for use of Roundup Ultra herbicide (524-475) at preharvest and spot treatment timings in peas, lentils, and chickpeas. The proposal at that time was supported by residue data from an IR-4 Project study; a draft report was submitted with the label request. Mr. Errico completed a review of the data and label proposal on 18-Jun-2001 (D256744), and noted several deficiencies. The present label proposal seeks to address those issues and thereby permit approval of this use. Three copies of a new proposed label for Roundup UltraMAX (524-512) are enclosed for Agency review and approval.

The supporting residue data for this proposal are threefold:

1. The IR-4 Glyphosate / Pea (dry) Study Protocol 6139. Dr. Dan Kunkel of the IR-4 has committed to format the finalized report according to PR 86-5 for proper submission to EPA. The findings will be the same as in Mr. Errico's review: Preharvest treatment of 5 trials (2 samples each) of dry peas with 2.25 lb glyphosate ae per acre (3 lbs glyphosate IPA salt per acre) 7 days prior to harvest produced pea residues of 0.59 – 6.19 ppm glyphosate. Trials were located in North Dakota (Zone 5) and Washington (Zone 11).

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2. MRID 42312804 Canadian Peas and Lentils. Pea (4 trials) and lentil (1 trial) treatments 12 – 16 days prior to harvest using 0.6 lb glyphosate ae per acre (0.67 kg ae/ha) led to residues of 0.9 – 4.45 ppm glyphosate, based on the mean result following analysis of 2 samples from each trial. All trials were centrally located in the province of Alberta, and therefore fall into Residue Zone 7. Note that a second reported lentil trial appeared to be faulty, since no residues were found in the harvested seeds, and this trial has been omitted. Further note that there is a higher treatment rate (0.9 kg ae/ha, equivalent to 0.8 lb ae/a) also included in the study, but it is not referenced in support of this label. Monsanto requests that EPA consider these Canadian data to represent growing conditions in Northern US states as well as in Canada.
3. MSL17194 "Magnitude of Glyphosate Residues in Dried Shelled Beans Following Preharvest Application of Roundup UltraMAX™ Herbicide". Dry-bean residue data from 13 trial sites following a 0.75 lb glyphosate ae/acre treatment 7 days prior to harvest. Trial sites were in residue zones 1 (1 trial), 5 (6 trials), 7 (2 trials), 8 (1 trial), 9 (1 trial), 10 (1 trial), and 11 (1 trial). Residue levels were 0.01 – 1.56 ppm of glyphosate, based on the mean result following analysis of 2 samples from each trial. Note: This report is being submitted under separate cover dated 28-Mar-2002 (same date as this letter) in support of a proposed dry bean preharvest application label. Monsanto requests that EPA consider these dry bean data to be supplementary surrogate data for dried peas, lentils, and chickpeas, since they are in the same Crop Subgroup.

If these reports are considered as a block of data together:

- There are 23 trial locations leading to 46 dry legume samples. 9 trials (18 samples) were with dry peas, 1 trial (2 samples) was with dry lentils, and 13 trials (26 samples) were with dry beans. Appendix A of the Residue Guidance OPPTS 860.1500 indicates that dried peas require a minimum of 5 trials with a minimum of 10 residue samples.
- Distribution of residue trial sites is as follows:

	Zone 1	Zone 5	Zone 7	Zone 8	Zone 9	Zone 10	Zone 11
peas		2	4				3
lentils			1				
beans	1	6	2	1	1	1	1
summed	2	8	7	1	1	1	4

EPA's Residue Guidance OPPTS 860.1500, Appendix A, Table 5 does not indicate a preferred geographic distribution for dried pea trials. Table 6 in that section indicates that production is primarily in Zone 11, with some production in Zone 5. Monsanto proposes a label that would apply to eight states (Idaho, Minnesota, Montana, Nebraska, North Dakota, Oregon, South Dakota, and Washington) that are included in Zones 5, 7, 9, 11, and 12. These zones are all

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28-Mar-2002

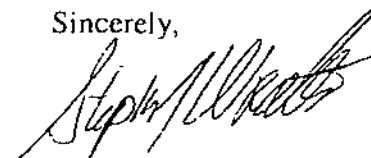
represented in the data set except for Zone 12, which is in Washington and Oregon east of the Cascade Mountains, where dried peas are not grown.

Mr. Errico's 18-Jun-2001 Review concluded that the residue data could only be used to support dried pea treatments in North Dakota and Washington, but that conclusion pertained only to the limited IR-4 data. Monsanto believes that consideration of this larger data set should be sufficient to conclude that residues from the proposed lower treatment rates will not exceed the established 5 ppm food tolerance in any of the proposed States.

- Excluding the IR-4 Project data, treatment rates of 0.6 – 0.75 lb glyphosate a.e. per acre were shown in 18 trial sites to produce dried legume residues of 0.01 – 4.45 ppm glyphosate with PHI's ranging from 7 to 16 days. To be conservative, Monsanto herein proposes a maximum labeled annual treatment rate of 21 fluid ounces of Roundup UltraMAX per acre (0.66 lb glyphosate a.e. per acre) and a PHI of 14 days. The IR-4 Project trials were conducted at a nominal treatment rate of 2.25 lb glyphosate ae/acre, or 3.4-fold higher than proposed for this label. Monsanto requests that the Agency consider that the residues will likely decline proportionately with the treatment rate reduction, so that the IR-4 Project data, scaled to the maximum proposed treatment rates, would correspond to residues of 0.17 – 1.82 ppm glyphosate. Therefore, at the proposed treatment rate and with the proposed PHI, Monsanto is confident that the cited data demonstrate that residues will not exceed the established food tolerance of 5 ppm for dried legume vegetables.
- The proposed label includes the following restrictions that are consistent with Mr. Errico's review:
  - Only one application per year, either preharvest or spot treatment.
  - Do not treat field (feed) peas.
  - Do not feed treated vines and hay to livestock.
  - Spot treatment and broadcast rates are both limited to 21 fluid ounces per acre.
  - PHI of 14 days or more.

In consideration of these proposals, Monsanto requests that the enclosed label be approved for use in the named Northern US states. If you have any questions on this matter please feel free to contact me through Dr. Marsha C. Gray (202-383-2878) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

cc: M. C. Gray  
D. Kunkel

UMAX peas lentils chickpeas.doc

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

MAY 20 2004

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Mr. Stephen J. Wratten  
Monsanto Company  
600 13<sup>th</sup> Street, N. W., Suite 660  
Washington, DC 20005

Dear Mr. Wratten:

Subject: Roundup Original Max Herbicide (Ground and Aerial Application in Brush and  
Chaparral In CA )  
EPA Registration No. 524-539  
Application Dated April 29, 2004

The labeling referred to above, submitted in connection with registration under the  
Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy  
of labeling is enclosed for your records.

Sincerely,

*Vicki K. Kuntz*  
James A. Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505C)

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## SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP ORIGINAL® MAX HERBICIDE  
BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED  
IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Original MAX herbicide and this supplement.

### ROUNDUP ORIGINAL MAX HERBICIDE

EPA Reg. No. 524-539

Roundup Original and Roundup Ready are  
trademarks of Monsanto Technology LLC.

## FOR GROUND AND AERIAL APPLICATION TO BRUSH AND CHAPARRAL IN CALIFORNIA ONLY.

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of the herbicide application.

See "GENERAL INFORMATION", "MIXING", "APPLICATION EQUIPMENT AND TECHNIQUES" sections of the label booklet for essential product information.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF THE SPRAY WITH FOLIAGE, GREEN STEMS, OR FRUIT OF DESIRABLE CROPS, PLANTS, TREES OR OTHER DESIRABLE VEGETATION, SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

Although not generally required, surfactants or additives containing surfactants may be added to this product. Do not reduce rates of Roundup Original MAX herbicide when adding surfactant. Read and carefully observe surfactant rates, cautionary statements, and other information appearing on the surfactant label. Refer to the "MIXING" section of the Roundup Original MAX label booklet for additional information.

**TIMING OF APPLICATION:** Apply this product as a broadcast spray when plants are actively growing for partial control of

undesirable vegetation listed on this label. Best results are obtained when application is made in the spring to early summer when brush species are at a high moisture content and flowering.

This product may be used as recommended for:

- Aid to burning treatment to establish and maintain fuel breaks
- Establishing fire perimeters and black lines
- Aid to prescribed burning
- Along fire roads and rights-of-way
- Range conversion
- Site preparation in forestry

**APPLICATION RECOMMENDATION:** Apply 44 fluid ounces of this product per acre for partial control of the following emerged brush and chaparral species:

<b>Ceanothus</b>	<b>Sage</b>
<i>Ceanothus spp.</i>	<i>Salvia spp.</i>
<b>Chamise</b>	<b>Scrub oak</b>
<i>Adenostoma fasciculatum</i>	<i>Quercus dumosa</i>

Ground applications should be applied in 3 to 40 gallons of total spray solution per acre.

Aerial applications (helicopter only) should be applied in 3 to 15 gallons of total spray solution per acre.

Avoid direct application to any body of water.  
**AVOID DRIFT—DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY**

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VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

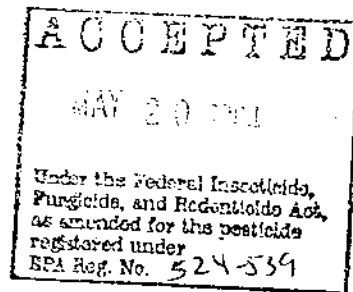
For aerial application of this product, please see the supplemental label directions for aerial application in California.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label for Roundup Original herbicide before using this product. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

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ST. LOUIS, MISSOURI 63167

[Print Plate No.]

4/29/2004



1. DATE REVIEWED		2. DATE REVIEWED BY		3. ACTION TYPE		4. ACTION TYPE		5. ACTION TYPE		6. ACTION TYPE	
5/18/04		AUP		General and General Agent to Branch and Chaparral in CA		303					
REVIEW TYPE	REVIEWER CODE	SIGNATURE OF REVIEWER	COMPLIMENT CODE	DATE REVIEWED	DATE REVIEWED	DATE REVIEWED	DATE REVIEWED	DATE REVIEWED	DATE REVIEWED	DATE REVIEWED	DATE REVIEWED
A	REVIEWABILITY TEAM										
B	PRODUCT MANAGER TEAM										
C	PRODUCT MANAGER TEAM										
D	PRODUCT MANAGER TEAM										
E	PRODUCT MANAGER TEAM										
F	PRODUCT MANAGER										
G	INTERAGENCY REFERRAL										
H	COST-BENEFIT REVIEW										
I	PUBLIC COMMENTS REVIEW										
J	EEC BRANCH INVESTIGATIVE										
K	EEC BRANCH INVESTIGATIVE										
L	EEC BRANCH INVESTIGATIVE										
M	EEC BRANCH INVESTIGATIVE										
N	EEC BRANCH INVESTIGATIVE										
O	ENVIRONMENTAL BRANCH										
P	EEC BRANCH INVESTIGATIVE										
Q	ENVIRONMENTAL BRANCH										
R	EEC BRANCH INVESTIGATIVE										
S											
T											
PRODUCT MANAGER SIGNATURE				TYPE OF RESPONSE				DATE			



United States  
Environmental Protection Agency  
Washington, DC 20460



Registration  
Amendment  
Other

OPP Identifier Number

294176

## Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification: <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original MAX Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Supplemental label for brush and Chaparral in California

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Director, Regulatory Affairs	
		Telephone No. (include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			8. Date Application Received (Stamped) 
2. Signature 		3. Title Manager, Registrations	
4. Typed Name Stephen J. Wratten, Ph.D.		5. Date April 29, 2004	



## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too", reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

365

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MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 600  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

April 29, 2004

Document Processing Center (AMEND)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup Original MAX Herbicide (EPA Reg. No. 524-539)  
Supplemental Label for Brush and Chaparral in California

Dear Mr. Tompkins:

Roundup Original MAX is one of the brand names for products sold under EPA Reg. No. 524-539, and is a liquid end-use formulation of potassium glyphosate. The most recent label approval was a new Master Label approved on 28-Jan-2004. This Master Label includes instructions for use of this product in a large variety of sites, but does not specifically contain instructions for use on brush and chaparral.

Application to California Brush and Chaparral is an approved use pattern for Roundup Original Herbicide (524-445); a copy of the 29-Dec-2000 stamped label is enclosed for your reference. Monsanto now requests approval of a similar label for Roundup Original MAX Herbicide. Five (5) draft copies are enclosed for Agency review. The label text is identical to that already approved for Roundup Original, except for slightly altered text in the 6<sup>th</sup> paragraph relating to surfactant addition.

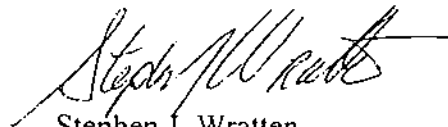
After approval, Monsanto intends to integrate this labeling into the Master Label for this registration at our next opportunity.

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We view that the extension of this registration to include Directions for Use that are already part of other Monsanto glyphosate registrations as a me-too fast track amendment for which **no PRIA Registration Service Fee is required**. If the Agency evaluates this application differently, please inform Monsanto by sending an email to [Regulatory.Affairs@Monsanto.com](mailto:Regulatory.Affairs@Monsanto.com).

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider (202-383-2866) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

cc: R. P. Schneider

Original MAX brush & chaparral.doc

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Mr. Stephen J. Wratten  
Monsanto Company  
600 13<sup>th</sup> Street, N. W., Suite 660  
Washington, DC 20005

Dear Mr. Wratten:

Subject: Roundup Original Max Herbicide (Clarify Vegetables and Miscellaneous Crops)  
EPA Registration No. 524-539  
Application Dated April 28, 2004

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

*James A. Tompkins for*  
James A. Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505C)

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL MAX BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup Original MAX as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

Roundup Original MAX  
Herbicide

ROUNDUP ORIGINAL MAX FOR WEED CONTROL IN VEGETABLE CROPS AND  
MISCELLANEOUS CROPS

EPA Reg. No. 524-539

Keep out of reach of children.

**CAUTION!**

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

Roundup Original MAX is a registered trademark of Monsanto Technology LLC.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

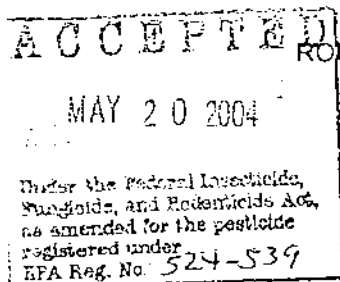
See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX for essential product performance information.

#### 1 Vegetable Crops

**NOTE:** THIS "VEGETABLE CROPS" SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED VEGETABLE CROPS WITHIN THE SECTIONS GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, Prior to Transplanting Vegetables, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, Post-Harvest, Directed Applications (Non-Bearing Ginseng), Over-the-Top Wiper Applications (Rutabagas Only).

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**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to insure that the wash water flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for additional information.

### **1.1 Brassica Vegetables**

**LABELED CROPS:** Broccoli, Chinese broccoli (gai lan), Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens.

### **1.2 Bulb Vegetables**

**LABELED CROPS:** Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot.

### **1.3 Cucurbit Vegetables and Fruits**

**LABELED CROPS:** Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucuzza, hechima, Chinese okra), Melons (all), *Momordica spp* (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon.

**PRECAUTIONS, RESTRICTIONS:** For Cantaloupe, Casaba melon, Crenshaw melon, Cucumber, Gherkin, Gourds, Honeydew melon, Honey ball melon, Mango melon, Melons (all), Muskmelon, Persian melon, Pumpkin, Squash (summer, winter), and Watermelon, allow at least 3 days between application and planting.

### **1.4 Leafy Vegetables**

**LABELED CROPS:** Amaranth (Chinese spinach), Arugula (roquette), Beet greens, Cardoon, Celery, Chinese celery, Celtuce, Chaya, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Dokudami, Endive (escarole), Florence fennel, Gow kee, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Swiss chard, Watercress (upland), Water spinach.

**PRECAUTIONS, RESTRICTIONS:** For Watercress, avoid applications within 3 days prior to seeding and during the period between seeding and emergence to minimize the risk of injury.

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### 1.5 Fruiting Vegetables

**LABELED CROPS:** Eggplant, Groundcherry (*Physalis spp*), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato.

**PRECAUTIONS, RESTRICTIONS:** For Eggplant, Ground cherry, Pepper (all), and Tomatillo, allow at least 3 days between application and planting. For tomato and tomatillo, do not make hooded or shielded sprayer applications in row middles because of the potential for crop injury..

### 1.6 Legume Vegetables (Succulent or Dried)

**LABELED CROPS:** Bean (*Lupinus*: includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus*: includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (*Vigna*: includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (*Pisum*: includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean.

### 1.7 Root and Tuber Vegetables

**LABELED CROPS:** Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Beet (garden), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Galangal, Ginger, Ginseng, Horseradish, Leren, Kava (turnip-rooted), Parsley (turnip rooted), Parsnip, Potato, Radish, Oriental radish, Rutabaga, Salsify, Black salsify, Spanish salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Wasabi, Yacon, Yam bean, True yam.

#### Directed Applications (Non-Bearing Ginseng Only)

**USE INSTRUCTIONS:** This product may be used for general weed control in established non-bearing ginseng. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, and orchard guns or with wiper application equipment.

**PRECAUTIONS, RESTRICTIONS:** Direct applications so that there is no contact of this product with the ginseng plant. Applications must be made at least one year prior to harvest.

#### Over-the-Top Wiper Applications (Rutabagas Only)

**USE INSTRUCTIONS:** Wiper applicators may be used over-the-top of rutabagas.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 14 days between application and harvest of rutabagas.

## 2. Miscellaneous Crops

**LABELED CROPS:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: General Weed Control, Site Preparation, Spot Treatment (Asparagus), Post-Harvest (Asparagus).

For Roundup Ready sugar beets, see the "ROUNDUP READY CROPS" section of the label booklet.

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops

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because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for additional information.

#### **General Weed Control, Site Preparation**

**USE INSTRUCTIONS:** This product may be applied for general weed control or for site preparation prior to planting or transplanting crops listed in this section.

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to insure that the wash water flushes off the plastic mulch and does not enter transplant holes. Allow at least 21 days between residue removal and transplanting. Applications made at emergence will result in injury or death to emerged seedlings.

Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application.

#### **Spot Treatment (Asparagus)**

**USE INSTRUCTIONS:** This product may be applied immediately after cutting, but prior to the emergence of new spears.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

#### **Post-Harvest (Asparagus)**

**USE INSTRUCTIONS:** This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

**PRECAUTIONS, RESTRICTIONS:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence post-harvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

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**Read the "Limit of Warranty and Liability" in the label booklet for Roundup Original MAX before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.**

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ST. LOUIS, MISSOURI 63167 USA

3712



1. DATE FILLED		10. DATE FULFILLING		11. ACTION TYPE		12. OUTGOING DATE	
5/18/04		AWP		Clarify Vegetable and Miscellaneous Crops 300			
REVIEW TYPE	REVIEWER CODE	SIGNATURE OF REVIEWER	COM- MENT CODE	DATE REVIEW COMPLETED			
A REVIEWABILITY TEAM							
B PRODUCT MANAGER TEAM OFFICIAL REVIEW							
C PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW							
D PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW							
E PRODUCT MANAGER TEAM REGULATION REVIEW							
F PRODUCT MANAGER					VKW NAC O/S/18/04		
G INTERAGENCY REFERRAL							
H COST-BENEFIT REVIEW							
I PUBLIC COMMENTS REVIEW							
J EEC BRANCH - PESTICIDES OFFICIAL							
K EEC BRANCH - PESTICIDES OFFICIAL							
L EEC BRANCH - FUNGICIDES OFFICIAL							
M EEC BRANCH - PESTICIDES OFFICIAL							
N EEC BRANCH - BIOPHARMACEUTICALS OFFICIAL							
O CHEMISTRY BRANCH REGIONAL CHEMISTRY							
P EEC BRANCH ENVIRONMENTAL CHEMISTRY							
Q TOXICOLOGY BRANCH HUMAN SAFETY							
R EEC BRANCH ENVIRONMENTAL SAFETY							
S							
T							
PRODUCT MANAGER SIGNATURE				TYPE OF RESPONSE			

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

294175

## Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original MAX Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

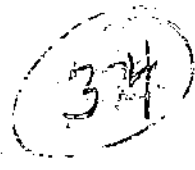
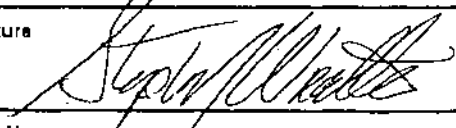
Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Supplemental label for vegetables and miscellaneous crops

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
* Certification must be submitted	If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		<input type="checkbox"/> Plastic	
				<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Russell P. Schneider		Title Director, Regulatory Affairs		Telephone No. (Include Area Code) (202) 783-2460	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					8. Date Application Received (Stamped)  
2. Signature 		3. Title Manager, Registrations			
4. Typed Name Stephen J. Wratten, Ph.D.		5. Date April 28, 2004			

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Marker in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only . . . . .

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MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 660  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

April 28, 2004

Document Processing Center (AMEND)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

**Subject: Roundup Original MAX Herbicide (EPA Reg. No. 524-539)  
Supplemental Label for Vegetables and Miscellaneous Crops**

Dear Mr. Tompkins:

Roundup Original MAX is one of the brand names for products sold under EPA Reg. No. 524-539, and is a liquid end-use formulation of potassium glyphosate. The most recent label approval was a new Master Label approved on 28-Jan-2004. This Master Label includes instructions for use of this product in vegetable and miscellaneous crops (see part I.8.10 and I.8.11). Monsanto wishes to make two small amendments to the approved text for these sections as shown in the enclosed MARKED (upper right) draft text. Both changes limit the scope of the approved use pattern in order to reduce the potential for inadvertent crop injury.

1. In the Fruiting Vegetables section, specify that tomatillos, like tomatoes, cannot be treated using hooded or shielded sprayers.
2. In the Miscellaneous crops section, specify a 21-day waiting period between treatment in plastic-mulched fields and transplanting.

3-6

Mr. Tompkins Page 2  
28-Apr-04

After approval, the modified text can be inserted into the Master Label or printed DFU booklets to replace the existing corresponding text. Four (4) UNMARKED draft copies are enclosed for your review and approval.

We view that these minor label changes qualify as a me-too fast track amendment for which **no PRIA Registration Service Fee is required**. If the Agency evaluates this application differently, please inform Monsanto by sending an email to [Regulatory.Affairs@Monsanto.com](mailto:Regulatory.Affairs@Monsanto.com).

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider (202-383-2866) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

cc: R. P. Schneider

Original MAX Veg changes.doc

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MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 660  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

March 12, 2004

Document Processing Desk (NOTIF)  
Office of Pesticide Programs 7504C  
U.S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: RT Master II Herbicide (EPA Reg. No. 524-539)  
Submission of final printed supplemental label  
For Use in Dormant Alfalfa

Dear Mr. Tompkins,

Monsanto is submitting for your files, three (3) copies of the final printed supplemental labels for RT Master II Herbicide (EPA Reg. No. 524-539, Print Plate No. 63009C1-13) for the above use. This text (Section II.A) is extracted from the EPA approved master label dated January 28, 2004.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Russell P. Schneider or directly at (314) 694-9036.

Sincerely,

Debra Hinton  
Registration Specialist

cc: R. Schneider  
S. Wratten

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

295605

## Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) RT Master II Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 1/28/2004
<input type="checkbox"/> Resubmission in response to Agency letter dated: _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Print Plate No. 63009C1-13

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Russell P. Schneider		Title Director, Regulatory Affairs		Telephone No. (Include Area Code) (202) 783-2460	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					6. Date Application Received (Stamped) 
2. Signature 		3. Title Registration Specialist			
4. Typed Name Debra Hinton		5. Date 3/12/2004			

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

### PAPERWORK REDUCTION ACT NOTICE:

Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for registration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

**Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, submission, "me-too," reregistration, etc.

5. Self-explanatory.
- EPA Use Only.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR RT MASTER® II HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using RT Master II herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.



EPA Reg. No. 524-539

RT Master and Roundup Ready are registered trademarks of Monsanto Technology LLC.

**NOT REVIEWED**  
In Accordance with PR Notice 88-5,  
Based on Draft Labeling Dated

Keep out of reach of children.

**CAUTION!**

12/8/04

**FOR USE IN DORMANT ALFALFA**

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for RT Master II for essential product performance information.

### RECOMMENDATIONS

This product will control or suppress many weeds, including quackgrass, downy brome and cheatgrass in dormant alfalfa.

Apply 6 to 8 fluid ounces per acre of this product. Apply in the spring to alfalfa that is dormant. Applications should be made after spring temperatures have warmed enough to encourage resumption of weed growth, but prior to initiation of trifoliate leaf expansion of the alfalfa. Applications made after expansion of the first trifoliate leaf of the alfalfa will cause growth reduction and reduced crop yield.

Do not use ammonium sulfate when spraying dormant alfalfa with RT Master II herbicide.

Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated.

Do not make more than one application per year.

Allow 36 hours after application before grazing livestock or harvesting.

Slight discoloration of the alfalfa may occur, but the alfalfa will regreen and regrow under moist soil conditions as effects of this product wear off.

Application of this product is limited to persons who have attended a Monsanto-approved training program. Application of this product can cause crop injury. Any crop injury is the sole responsibility of the applicator.

Read the "Limit of Warranty and Liability" in the label booklet for RT Master II before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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ST. LOUIS, MISSOURI 63167

63009C1-13

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MONSANTO  
imagine



MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 660  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

March 12, 2004

Office of Pesticide Programs (7504C)  
Document Processing Center (NOTIF)  
U.S. Environmental Protection Agency  
Crystal Mall #2, Room 266A  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup Original MAX Herbicide (EPA Reg. No. 524-539)  
Submission of final printed supplemental label  
For Use in Dormant Alfalfa

Dear Mr. Tompkins,

Monsanto is submitting for your files, three (3) copies of the final printed supplemental labels for Roundup Original MAX Herbicide (EPA Reg. No. 524-539, Print Plate No. 63008C1-16) for the above use. This text (Section II.A) is extracted from the EPA approved master label dated January 28, 2004.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-9036.

Sincerely,

Debra Hinton  
Registration Specialist

cc: R. Schneider  
S. Wratten

382



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

295606

## Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original MAX Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005  <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 1/28/2004
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.


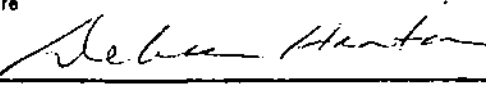
Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Print Plate No. 63008C1-16

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Director, Regulatory Affairs	Telephone No. (Include Area Code) (202) 783-2460	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			8. Date Application Received (Stamped) 
2. Signature 	3. Title Registration Specialist		
4. Typed Name Debra Hinton	5. Date 3/12/2004		

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
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4. Five copies of draft labeling;
5. Three copies of any data submitted;
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**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Print) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL MAX® HERBICIDE  
BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS  
SUPPLEMENTAL LABELING.

When using Roundup Original MAX herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.



EPA Reg. No. 524-539

Roundup Original MAX and Roundup Ready are registered  
trademarks of Monsanto Technology LLC.

Keep out of reach of children.

**CAUTION!**

**FOR USE IN DORMANT ALFALFA**

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX for essential product performance information.

### RECOMMENDATIONS

This product will control or suppress many weeds, including quackgrass, downy brome and cheatgrass in dormant alfalfa.

Apply 6 to 8 fluid ounces per acre of this product. Apply in the spring to alfalfa that is dormant. Applications should be made after spring temperatures have warmed enough to encourage resumption of weed growth, but prior to initiation of trifoliate leaf expansion of the alfalfa. Applications made after expansion of the first trifoliate leaf of the alfalfa will cause growth reduction and reduced crop yield.

Do not use ammonium sulfate when spraying dormant alfalfa with Roundup Original MAX herbicide.

Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated.

Do not make more than one application per year.

Allow 36 hours after application before grazing livestock or harvesting.

Slight discoloration of the alfalfa may occur, but the alfalfa will regreen and regrow under moist soil conditions as effects of this product wear off.

Application of this product is limited to persons who have attended a Monsanto-approved training program. Application of this product can cause crop injury. Any crop injury is the sole responsibility of the applicator.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Original MAX before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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ST. LOUIS, MISSOURI 63167

385 63308C1-16

MONSANTO  
imagine



MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 000  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

February 16, 2004

Office of Pesticide Programs (7504C)  
Document Processing Center (NOTIF)  
U.S. Environmental Protection Agency  
Crystal Mall #2, Room 266A  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup Original MAX Herbicide (EPA Reg. No. 524-539)  
Submission of Final Printed Supplemental Label for  
Control and Management of Glyphosate Resistant Horseweed (*Marestail, Conyza  
canadensis*) in Cotton, Corn, and Soybeans in Specific Geographies

Dear Mr. Tompkins:

Monsanto is submitting for your files, three (3) copies of the final printed supplemental labels for Roundup Original MAX Herbicide (EPA Reg. No. 524-539, Print Plate No. 63008C1-15) for the above use. This label text is retrieved from the EPA stamped master label dated May 28, 2003. In light of the previous year's activity of glyphosate resistant horseweed, Monsanto has implemented limited geography.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-9036.

Sincerely,

Debra Hinton  
Registration Specialist

cc: R. Schneider  
S. Wratten

386



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

265169

## Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original MAX Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated May 28, 2003
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Print. Plate No. 63008C1-15

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Director, Regulatory Affairs	Telephone No. (Include Area Code) (202) 783-2460
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped) 
2. Signature 	3. Title Registration Specialist	
4. Typed Name Debra Hinton	5. Date February 16, 2004	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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2. Confidential Statement of Formula (EPA Form 8570-4);
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4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
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**Submission of Labeling:** Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data:** Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A - Check the appropriate action for which you are submitting this form.**

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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## Supplemental Labeling

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL® MAX HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Roundup Original® MAX herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container for each product and on this supplemental labeling.



EPA Reg. No. 524-539

### FOR CONTROL AND MANAGEMENT OF GLYPHOSATE RESISTANT HORSEWEED (MARESTAIL, *Conyza canadensis*) IN COTTON, CORN, AND SOYBEANS IN THE FOLLOWING GEOGRAPHIES:

- All counties in the states of Alabama, Arkansas, Delaware, Kentucky, Mississippi, New Jersey, North Carolina and Tennessee.
- All counties South of Interstate 70 in the states of Indiana and Ohio.
- Maryland counties of Caroline, Cecil, Dorchester, Kent, Queen Annes, Somerset, Talbot, Wicomico and Worcester.
- Missouri counties of Bollinger, Butler, Cape Girardeau, Dunklin, Mississippi, New Madrid, Pemiscot, Scott and Stoddard.

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night (314) 694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This label must be in the possession of the user at the time of herbicide application. AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS).

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original MAX herbicide for essential product performance information.

For ground applications, use 10 to 20 gallons of water per acre. For aerial applications, use 3 to 15 gallons of water per acre. For tank-mix recommendations, read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used.

#### Cotton:

##### Preplant:

For control of horseweed, apply this product (22 fluid ounces per acre) in a tank-mix with Clarity® (8 fluid ounces per acre). This application must be made 21 to 35 days before planting and before horseweed reaches 6 inches in height. In order

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to avoid crop injury, a minimum interval of 21 days during which there is at least 1 inch of cumulative rainfall must be observed between Clarity application and planting of cotton.

**Post-directed (Roundup Ready Cotton varieties only):**

Management of early season weed competition and the development of a crop height differential between cotton and the horseweed is often achieved by a combination of preplant burndown and post emergent over-the-top and/or directed applications of Roundup Original MAX herbicide. These measures enhance the development of a height differential that is necessary to successfully make post-directed treatments. In-crop post-directed applications of MSMA (2 pounds active ingredient per acre) tank-mixed with diuron (0.5 to 0.75 pounds active ingredient per acre) should be made when the temperature is 80°F or higher.

**Soybeans:**

**Preplant:**

Apply a tank mixture of this product (22 fluid ounces per acre) with 2,4-D (0.5 pounds a.i. per acre) before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting. For areas where 2,4-D cannot be applied due to application restrictions or proximity to a sensitive crop, contact your local retailer and Monsanto representative.

**In-crop (Roundup Ready Soybean varieties only):**

It is strongly encouraged that horseweed should be controlled prior to planting using recommended preplant burndown treatments. In-crop Roundup Ready soybeans, apply a tank mixture of this product (22 fluid ounces per acre) with Amplify® (0.3 ounces per acre). This treatment should be used as a salvage treatment only for a horseweed infestation that was not controlled preplant. Application should be made between full emergence of the first trifoliate leaf and 50 percent flowering stage of soybeans. At the time of treatment, horseweed should not exceed 6 inches in height.

**Corn:**

**Preplant, At-Planting, Preemergence:**

Apply a tank mixture of this product (22 fluid ounces per acre) plus 2,4-D (0.5 pounds a.i. per acre) before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting.

Atrazine (1 to 2 pounds active ingredient per acre) may be included in the tank-mixture to provide residual control. Refer to the atrazine product label for specific use instructions.

**In-crop (Roundup Ready Corn hybrids only):**

In-crop Roundup Ready corn, apply a tank-mixture of this product (22 fluid ounces per acre) plus Clarity (8 to 16 fluid ounces per acre) or 2,4-D (0.5 to 1.0 pounds a.i. per acre). Apply between corn emergence and the 5-leaf stage of growth (approximately 8 inches tall).

**ATTENTION**

**AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.**

Amplify, Roundup Original MAX, and Roundup Ready are registered trademarks of Monsanto Technology LLC. Clarity is a trademark of BASF Corp.

2/6/03

63008C1-15

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number  
294123

## Application for Pesticide - Section I

1. Company/Product Number Monsanto Company / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) RT Master II Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II


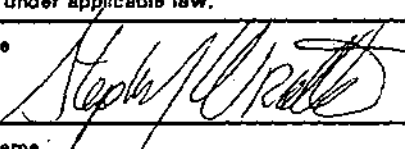
<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Director, Regulatory Affairs	Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)  
2. Signature 	3. Title Manager, Registrations		
4. Typed Name Stephen J. Wratten, Ph.D.	5. Date February 20, 2004		

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

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2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

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**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
1. EPA Use Only.

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MONSANTO  
imagine



MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 600  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

February 20, 2004

Document Processing Center (AMEND)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: EPA's 28-Jan-2004 Approval of Master Label  
EPA Reg. No. 524-539  
Brand Name: RT Master II Herbicide

Dear Mr. Tompkins:

Monsanto wishes to thank EPA for the prompt approval of our requested amendments to the Master Label cited above, approved 28-Jan-2004.

Upon re-inspection of the stamped label, I note that I made one significant omission on the 1<sup>st</sup> page – I did not include the new brand name "RT Master II Herbicide". This name was Notified to EPA via a letter and draft label dated 9-Jul-2003, and Final Printed Labeling was provided in my 5-Sep-2003 letter. Product is now available in the marketplace. It is Monsanto's intention to keep the RT Master II Herbicide as a viable brand name on this registration, and therefore I attach to this letter a modified version of the 1<sup>st</sup> page of the Master Label now containing this name for your records.

I apologize for any confusion this omission may cause.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider (202-383-2866) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,

Stephen J. Wratten  
Manager, Registrations

cc: R. P. Schneider

Emphasis RT Master II Brand.doc

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**MASTER LABEL FOR EPA REG. NO. 524-539**

Registered Brand Names:

**Roundup Original 2K Herbicide  
Roundup Original MAX Herbicide  
RT Master II Herbicide**

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III.	Main Label for Industrial, Turf, & Ornamental Uses	Page 77 of 109
IV.	Supplemental Labeling for Industrial, Turf, & Ornamental Uses	Page 103 of 109

**\*\*See each label part for more detailed table of contents\*\***

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Mr. Stephen J. Wratten  
Monsanto Company  
600 13<sup>th</sup> Street, N. W. Suite 600  
Washington, DC 20005

Dear Mr. Wratten:

Subject: Roundup Original 2K Herbicide (Revise Master Label)  
EPA Registration No. 524-539  
Application Dated November 3, 2003

The labeling referred to above submitted above in connection with registration under a the Federal Insecticide, Fungicide, and Rodenticide act as amended is acceptable. Amended labeling supercedes all previously accepted ones. A stamped copy of labeling is enclosed for your records.

Sincerely,

*James A. Tompkins*  
James A. Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505C)

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**MASTER LABEL FOR EPA REG. NO. 524-539**

Registered Brand Names:

**Roundup Original 2K Herbicide  
Roundup Original MAX Herbicide**

Table of Contents for Master Label

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**\*\*See each label part for more detailed table of contents\*\***

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## I. MAIN LABEL FOR FOOD CROP USES

[INSERT BRAND NAME]

Herbicide

### Complete Directions for Use

EPA Reg. No. 524-539

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

Herbicide for Roundup Ready Crops.

The complete broad-spectrum postemergence herbicide for weed control in many agricultural systems.

Selective broad-spectrum weed control in Roundup Ready crops. Non-selective, broad-spectrum weed control for many agricultural systems.

Transorb™

A member of the Roundup® Family of Agricultural Herbicides by Monsanto

"The President's Green Chemistry Award was presented in 1996 to Monsanto for its innovative "zero-waste" process in the manufacture of Roundup Herbicide."

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read the entire label before using this product.

Use only according to label instructions.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling. Supplemental Labeling may be found on the [cdms.net](http://cdms.net) or [greenbook.net](http://greenbook.net) websites or obtained by contacting your Authorized Monsanto Retailer or Monsanto Company Representative.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

#### Refillable Container Label Statement:

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. IT IS INTENDED THAT REPACKAGING BE ONLY IN ACCORDANCE WITH A MONSANTO REPACKAGING OR TOLL REPACKAGING AGREEMENT.

#### Non-refillable Container Label Statement:

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING.

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## 1.0 INGREDIENTS

### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its potassium salt..... 48.7%

OTHER INGREDIENTS:..... 51.3%  
100.0%

\*Contains 660 grams per liter or 5.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its potassium salt. Equivalent to 540 grams per liter or 4.5 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patents Nos. 6,365,551 and RE 37,866. Other patents pending. No license granted under any non-U.S. patent(s).

## 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE,  
1-800-332-3111.
2. IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR FOR MEDICAL  
ASSISTANCE, CALL COLLECT, DAY OR NIGHT,  
(314)-694-4000.

## 3.0 PRECAUTIONARY STATEMENTS



ACCEPTED

### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

## CAUTION!

CAUSES MODERATE EYE IRRITATION.

Avoid contact with eyes, skin or clothing.

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended for the pesticide  
registered under  
EPA Reg. No. 524-539

**FIRST AID:** Call a poison control center or doctor for treatment advice.

#### IF IN EYES

- Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.
- Remove contact lenses if present after the first 5 minutes then continue rinsing eye.

#### IF ON SKIN

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 - 20 minutes.

- Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
- You may also contact (314) 694-4000, collect day or night, for emergency medical treatment information.
- This product is identified as [INSERT BRAND NAME]. EPA Registration No. 524-539.

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

### Personal Protective Equipment (PPE)

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistance category selection chart.

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### 3.2 Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

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### 3.3 Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

**DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS.** This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

#### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear: coveralls, shoes plus socks, and chemical resistant gloves made of any waterproof material.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried.

### 4.0 STORAGE AND DISPOSAL

**PESTICIDE STORAGE:** Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

See container label for alternate PESTICIDE DISPOSAL instructions.

[ALTERNATE CONTAINER LABEL STORAGE AND DISPOSAL STATEMENTS BY CONTAINER TYPE]

[FOR PLASTIC ONE-WAY CONTAINERS & BOTTLES]

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Do not reuse container. Triple rinse container, then puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

### [FOR ONE-WAY DRUMS]

Do not reuse container. Return container per the Monsanto container return program. If not returned, triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

### [FOR METAL CONTAINERS (non-aerosol)]

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

### [FOR REFILLABLE PORTABLE (MINI-BULK) CONTAINERS]

This container must only be refilled with pesticide product. **Do not reuse this container for any other purpose.**

Final disposal must be in compliance with state and local regulations. If not refilled, returned, or recycled, triple rinse or pressure rinse, puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Do not transport this container if it is damaged or leaking. If the container is damaged, leaking or obsolete, or to obtain information about recycling portable refillable containers, contact Monsanto Company at 1-800-ROUNDUP (1-800-768-6387).

**Users:** When the container is empty, replace the cap and seal all openings that have been made during usage, and return the container to the point of purchase, or to an alternate location designated by the manufacturer at the time of purchase of this product. If not returned, triple rinse or pressure rinse the empty container and offer it for recycling if available.

**Refillers:** Do not reuse this mini-bulk container except for refill in accordance with a valid Monsanto Repackaging or Toll Repackaging Agreement. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting.

### [FOR REFILLABLE STATIONARY BULK CONTAINERS]

This container must only be refilled with pesticide product. **Do not reuse this container for any other purpose.**

Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices.

Final disposal must be in compliance with state and local regulations. If not refilled, triple rinse or pressure rinse container and offer for recycling or reconditioning if possible. If burned, stay out of smoke.

## 5.0 GENERAL INFORMATION

### (How This Product Works)

**Product Description:** This product is a postemergent, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label instructions.

Do not add buffering agents or pH adjusting agents to the spray solution when [INSERT BRAND NAME] is the only pesticide used unless otherwise directed. See the "MIXING" section of this label for instructions regarding other additives.

### OPTIONAL ALTERNATE SURFACTANT STATEMENTS:

- A. Do not add surfactants or additives containing surfactants when [INSERT BRAND NAME] is the only pesticide used unless otherwise directed.

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## I. MAIN LABEL FOR FOOD CROP USES

B. Although not generally required, surfactants or additives containing surfactants may be added to this product. Refer to the "Mixing" section of this label for additional information.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" for recommendations for specific weeds.

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Reduced weed control may result from treating weeds with disease or insect damage, weeds heavily covered with dust, or weeds under poor growing conditions.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

**Spray Coverage:** For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of run-off.

**Mode of Action:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to formation of specific amino acids.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow.

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

When this label recommends a tank mixture with a generic active ingredient such as diuron, atrazine, 2,4-D, or dicamba, the user is responsible for ensuring that the mixture product's label allows the specific application.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials may result in reduced performance.

Tank mixtures with certain herbicides listed in this label may result in reduced weed control due to antagonism. Read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used. Use according to the most restrictive directions for each product in the mixture.

**Annual Maximum Use Rate:** Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 5.3 quarts of this product per acre per year. For applications in non-crop sites or in tree, vine, or shrub crops, the combined total of all treatments must not exceed 7 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

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**NOTE:** Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

### 6.0 MIXING

Use the following conversion table to help determine application rates of [INSERT BRAND NAME] based on commonly used rates of Roundup Original herbicide.

[INSERT BRAND NAME] CONVERSION TABLE

[INSERT BRAND NAME] (Ounces)	Roundup Original (Ounces)
16	24
22	32
27	40
32	48

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

**NOTE:** REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

### 6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

### 6.2 Tank Mixing Procedure

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20- to 35-mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If ammonium sulfate is used add it slowly through the screen into the tank. Continue agitation. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding other products.
4. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
5. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
7. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
8. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift reduction additive and water soluble liquid.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

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Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance. Ensure that the specific tank mixture product is registered for application at the desired site.

Refer to the "Tank Mixing" section of "GENERAL INFORMATION" for additional precautions.

### 6.3 Mixing for Hand-Held Sprayers

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

#### Spray Solution

Desired Volume	Amount of [INSERT BRAND NAME]					
	0.4%	0.7%	1%	1.5%	4%	7%
1 gal	0.5 oz	1 oz	1.3 oz	2 oz	5 oz	9 oz
25 gal	0.8 pt	0.7 qt	1 qt	1.5 qt	4 qt	7 qt
100 gal	1.6 qt	2.8 qt	1 gal	1.5 gal	4 gal	7 gal

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

### 6.4 Surfactants

Although not generally required, surfactant may be added to this product. However, surfactant addition is recommended at water carrier volumes above 30 gallons per acre or rates below 16 fluid ounces of this product per acre.

Nonionic surfactants that are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, a rate of 0.25 to 0.50 percent surfactant concentration (1 to 2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient is recommended. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

When applied as recommended under the conditions described, this product controls annual and perennial weeds listed in the label booklet.

**DO NOT** add buffering agents or pH adjusting agents to the spray solution when [INSERT BRAND NAME] is the only pesticide used. Unless otherwise directed, nonionic surfactant may be added to the spray solution for applications to Roundup Ready crops. The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Refer to the "ROUNDUP READY CROPS" section of this label or separately published supplemental labeling for additional precautions or restrictions. In addition, always read and carefully observe cautionary statements and other information appearing on the surfactant label.

### 6.5 Ammonium Sulfate

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, particularly under hard water conditions, drought conditions or when tank mixed with certain residual herbicides, on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

**NOTE:** When using ammonium sulfate, apply this product at rates recommended in this label. Lower rates will result in reduced performance.

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### 6.6 Colorants or Dyes

Agriculturally approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

### 6.7 Drift Reduction Additives

Drift reduction additives may be used with all equipment types, except wiper applicators, sponge bars and Controlled Droplet Applicator (CDA) equipment. When a drift reduction additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label. The use of drift reduction additives can affect spray coverage which may result in reduced performance.

## 7.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

**Aerial**—Fixed Wing and Helicopter.

**Ground Broadcast Spray**—Boom or boomless systems, pull-type sprayer, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment.

**Hand-Held or High-Volume Spray Equipment**—Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

\*This product is not registered in California or Arizona for use in mistblowers.

**Selective Equipment**—Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.

**Injection Systems**—Aerial or ground injection sprayers.

**Controlled Droplet Applicator (CDA)**—Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

### 7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 22 fluid ounces per acre. Refer to the individual use area sections of this label for recommended volumes, application rates, and further instructions.

FOR AERIAL APPLICATION IN CALIFORNIA OR SPECIFIC COUNTIES THEREIN, OR ARKANSAS, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE OR COUNTY FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

This product plus dicamba tank mixtures may not be applied by air in California.

Ensure uniform application—To avoid streaked, uneven or overlapped application, use appropriate marking devices.

#### AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward, parallel with the airstream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

#### Importance of Droplet Size

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The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the "Wind", "Temperature and Humidity", and "Temperature Inversions" sections of this label).

### Controlling Droplet Size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom length:** For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller droplets, etc.).

### Wind

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 miles per hour due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### Sensitive Areas

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The product should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Avoid direct application to any body of water.

### Aircraft Maintenance

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

## 7.2 Ground Broadcast Equipment

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat spray nozzles. Check for even distribution of spray droplets.

## 7.3 Hand-Held or High-Volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of run-off. Use coarse sprays only. For recommended rates and timing, refer to the "ANNUAL WEEDS—HAND-HELD OR HIGH-VOLUME EQUIPMENT" section of this product label.

## 7.4 Selective Equipment

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars, after dilution and thorough mixing with water, to listed weeds growing in any non-crop site specified on this label.

In cropping systems, hooded sprayers, shielded sprayers, and wipers may be used in row middles (in between rows of crop plants) where any dripping or leaking will not contact crop foliage. Such equipment must be capable of preventing all crop contact with herbicide solutions and operated without leakage of spray mists or dripping onto crop. Wipers over-the-top of crops may be used only when specifically recommended in this product's labeling.

### AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Application equipment used above desirable vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

### Recirculating Spray System

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

### Shielded and Hooded Applicators

When applied under the conditions described in the following paragraphs for shielded and hooded applications, this product at recommended rates will control those weeds listed in the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" of this label. A hooded sprayer is a type of shielded applicator where the spray pattern is fully enclosed including top, sides, front and back, thereby shielding the crop from the spray solution. Keep shields

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on these sprayers adjusted to protect desirable vegetation. When applying to crops grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

Use hoods designed to minimize excessive dripping or run-off down the insides of the hoods. A single, low-pressure/low-drift flat-fan nozzle with an 80 to 95 degree spray angle positioned at the top center of the hood is recommended. Spray volume should be 20 to 30 gallons per acre.

These procedures will reduce the potential for crop injury:

- The spray hoods must be operated on the ground or skimming across the ground.
- Leave at least an 8 inch untreated strip over the drill row. For example, if the crop row width is 38 inches, the maximum width of the spray hood should be 30 inches.
- Maximum tractor speed: 5 miles per hour to avoid bouncing of the spray hoods.
- Maximum wind speed: 10 miles per hour.
- Use low-drift nozzles that provide uniform coverage within the treated area.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

### Wiper Applicators

When applied under the conditions described in the following paragraphs, this product **CONTROLS** many weeds, including volunteer corn, Texas panicum, common rye, shattercane, sicklepod, spanishneedles, and bristly starbur; and **SUPPRESSES** many weeds including Florida beggarweed, Bermudagrass, hemp dogbane, dogfennel, guineagrass, johnsongrass, milkweed, silverleaf nightshade, redroot pigweed, giant ragweed, smutgrass, sunflower, Canada thistle, musk thistle, vaseygrass, and velvetleaf.

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if two applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution.

**For Rope or Sponge Wick Applicators**—Solutions ranging from 33 to 75 percent of this product in water may be used. Apply this solution to weeds listed above in this section.

**For Panel Applicators**—Solutions ranging from 33 to 100 percent of this product in water may be used in panel wiper applicators.

### 7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products when using injection systems.

## 7.6 CDA Equipment

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 2 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 miles per hour (1 quart per acre). For the control of perennial weeds, apply a 20- to 30-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 miles per hour (2 to 3 quarts per acre).

Controlled droplet application equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

## 8.0 ANNUAL AND PERENNIAL CROPS (Alphabetical)

**NOTE:** THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED CROPS WITHIN SECTION 8 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, AND ADDITIONAL PRECAUTIONS AND RESTRICTIONS.

See the "ROUNDUP READY CROPS" section of this label or separately published Monsanto Supplemental Labeling for instructions for treating Roundup Ready crops.

### TYPES OF APPLICATIONS:

Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, and Post-Harvest Treatments.

### GENERAL USE INSTRUCTIONS:

Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or preemergent to annual and perennial crops listed in this label, except where specifically limited. For any crop not listed in this label, applications must be made at least 30 days prior to planting. Unless otherwise specified, weed control applications may be made according to the rates listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" in this label. Repeat applications may be made up to a maximum of 5.3 quarts per acre per year.

Post-directed hooded sprayers and wiper equipment capable of preventing all crop contact with herbicide solutions may be used in mulched or unmulched row middles after crop establishment. Where specifically noted below, wipers may also be used above certain crops to control tall weeds. Refer to the "SELECTIVE EQUIPMENT" section of this label for essential precautions when using hooded sprayers or wipers to avoid crop injury caused by leakage of spray mists or dripping onto crops. Crop injury is possible with these applications and shall be the sole responsibility of the applicator.

The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

### GENERAL PRECAUTIONS, RESTRICTIONS:

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Broadcast applications made at emergence will result in injury or death to emerged seedlings. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

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In crops where spot treatments are allowed, do not treat more than 10 percent of the total field to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason.

For broadcast postemergent treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

### 8.1 Cereal and Grain Crops

**LABELED CROPS:** Barley, Buckwheat, Millet (pearl, proso), Oats, Rice, Rye, Quinoa, Teff, Teosinte, Triticale, Wheat (all types), Wild rice.

**PRECAUTIONS, RESTRICTIONS:** Do not treat rice fields or levees when field contains water.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Red Rice Control Prior to Planting Rice, Spot Treatment (except Rice), Over-the-Top Wiper Applications (Feed Barley and Wheat Only), Preharvest (Feed Barley and Wheat Only).

#### **Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of cereal crops. Applications must be made prior to emergence of the crop.

#### **Red Rice Control Prior to Planting Rice**

**USE INSTRUCTIONS:** Apply 32 fluid ounces of this product in 5 to 10 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of red rice. Make application when the majority of the red rice plants are in the 2-leaf stage and no more than 4 inches tall. Red rice plants with less than 2 true leaves may be only partially controlled.

**PRECAUTIONS, RESTRICTIONS:** Avoid spraying during low humidity conditions, as reduced control may result. Do not treat rice fields or levees when the fields contain floodwater. Do not reflood treated fields for 8 days following application.

#### **Spot Treatment (except Rice)**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in cereal crops. Apply this product before heading in small grains.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

#### **Over-the-Top Wiper Applications (Feed Barley and Wheat Only)**

**USE INSTRUCTIONS:** Wiper applications may be used in wheat and feed barley. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth, and when the rye is at least 6 inches above the wheat crop.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 35 days between application and harvest. Do not use roller applicators.

#### **Preharvest (Feed Barley and Wheat Only)**

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of wheat or feed barley. For wheat, apply after the hard-dough stage of grain (30 percent or less grain moisture). For feed barley, apply after the hard-dough stage and when the grain contains 20 percent moisture or less. Stubble may be grazed immediately after harvest.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 22 fluid ounces of this product per acre. Allow 7 days between application and harvest or grazing. Preharvest application is not recommended for wheat or barley grown for seed, as a reduction in germination or vigor may occur.



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### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied after harvest of cereal crops. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

### 8.2 Corn

**TYPES OF CORN:** Field corn, Seed corn, Silage corn, Sweet corn and Popcorn.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Spot Treatment, Preharvest.

For use directions for corn containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in a tank-mixture before, during or after planting corn. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting corn. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

2,4-D	Degree Xtra <sup>®</sup>	Harness Xtra 5.6L
Aim <sup>™</sup>	Distinct <sup>™</sup>	Lariat <sup>®</sup>
Atrazine	Dual MAGNUM <sup>™</sup>	Lasso <sup>®</sup> /Alachlor
Axiom <sup>™</sup>	Dual II MAGNUM <sup>™</sup>	Linex <sup>™</sup> /Lorox <sup>™</sup>
Balance <sup>™</sup>	Epic <sup>™</sup>	Marksman <sup>™</sup>
Banvel <sup>™</sup> /Clarity <sup>™</sup>	Frontier <sup>™</sup> /Outlook <sup>™</sup>	Micro-Tech <sup>®</sup>
Bicep MAGNUM <sup>™</sup>	FulTime <sup>™</sup>	Prowl <sup>™</sup>
Bicep II MAGNUM <sup>™</sup>	Guardsman <sup>™</sup> /Leadoff <sup>™</sup>	Python <sup>™</sup>
Bullet <sup>®</sup>	Harness <sup>®</sup>	Simazine
Degree <sup>®</sup>	Harness Xtra	Topnotch <sup>™</sup>

For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, use rate may need to be increased for acceptable weed control.

**PRECAUTIONS, RESTRICTIONS:** Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn.

For Southern states, do not apply in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. The area covered by this recommendation includes from Route 50 South in Illinois and Indiana and the following states: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

### Hooded Sprayers

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of corn. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Corn must be at least 12 inches tall, measured without extending leaves.

Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such

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damage shall be the sole responsibility of the applicator. Do not apply more than 22 fluid ounces of this product per acre for each application and no more than 64 fluid ounces per acre per year for hooded sprayer applications.

### Spot Treatment

USE INSTRUCTIONS: For spot treatments, apply this product prior to silking of corn.

PRECAUTIONS, RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

### Preharvest

USE INSTRUCTIONS: Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground applications, apply up to 64 fluid ounces of this product per acre. For aerial applications, apply up to 44 fluid ounces of this product per acre.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between application and harvest. Preharvest application is not recommended for corn grown for seed, as a reduction in germination or vigor may occur.

### Post-Harvest

USE INSTRUCTIONS: This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## 8.3 Cotton

TYPES OF APPLICATIONS: Those listed in Section 8.0 plus the following: Selective Equipment, Spot Treatment, Preharvest.

For use direction for cotton containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

### Preplant, Preemergence, At-Planting

USE INSTRUCTIONS: This product may be applied before, during or after planting cotton. Applications must be made prior to emergence of the crop.

TANK MIXTURES: This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting cotton. Apply these tank mixtures in 10 to 20 gallons of water per acre.

Caparol®	Direx™	Prowl
Clarity	Dual Magnum	Staple®
Command™	Dual II Magnum	Zorial®
Cotoran®	Karmex™	2,4-D
Cotton-Pro®	Meturon®	

PRECAUTIONS/RESTRICTIONS: Refer to individual product labels for rates, restrictions, precautionary statements and preplant intervals.

### Hooded Sprayers, Selective Equipment

USE INSTRUCTIONS: This product may be applied through hooded sprayers, recirculating sprayers, shielded applicators or wiper applicators in cotton. Allow at least 7 days between application and harvest.

PRECAUTIONS, RESTRICTIONS: See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

### Spot Treatment

USE INSTRUCTIONS: For spot treatments, apply this product prior to boll opening of cotton.

PRECAUTIONS, RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

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### Preharvest

**USE INSTRUCTIONS:** This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" of this label. For cotton regrowth inhibition, apply 11 to 44 fluid ounces of this product per acre.

Up to 44 fluid ounces of this product may be applied using either aerial or ground spray equipment. Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

**TANK MIXTURES:** This product may be tank mixed with DEF<sup>TM</sup> 6, Folex<sup>TM</sup>, Ginstar<sup>TM</sup>, or Prep<sup>TM</sup> to provide additional enhancement of cotton leaf drop.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Preharvest application is not recommended for cotton grown for seed, as a reduction in germination or vigor may occur.

### 8.4 Fallow Systems

**LABELED CROPS:** This product may be applied during the fallow period prior to planting or emergence of any crop on this label.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Aid-to-Tillage.

#### Chemical Fallow

**USE INSTRUCTIONS:** This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used. Applications up to 44 fluid ounces per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting. Do not apply dicamba tank mixtures by air in California.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if dicamba is applied within 45 days of planting.

#### Preplant Fallow Beds

**USE INSTRUCTIONS:** This product may be applied to fallow beds prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product will control weeds listed in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS" of this label.

**TANK MIXTURES:** In addition, 8 fluid ounces of this product plus 2 to 3 fluid ounces of Goal<sup>TM</sup> 2XL per acre will control the following weeds with the maximum height or length indicated: 3 inches—common cheeseweed, chickweed, groundsel; 6 inches—London rocket, shepherd's-purse.

11 fluid ounces of this product plus 2 to 3 fluid ounces of Goal 2XL per acre will control the following weeds with the maximum height or length indicated: 6 inches—common cheeseweed, groundsel, maretail (*Conyza canadensis*), 12 inches—chickweed, London rocket, shepherd's-purse.

#### Aid-to-Tillage

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures with residual herbicides may result in reduced performance.

### 8.5 Grain Sorghum (Milo)

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**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Spot Treatment, Over-the-Top Wiper Applications, Preharvest.

### **Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied alone or in tank-mixture before, during or after planting grain sorghum. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for application prior to planting grain sorghum. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

Atrazine	IntRRo™
Bicep II MAGNUM	Lariat
Bullet	Lasso
Dual II MAGNUM	Micro-Tech

For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, the use rate may need to be increased for acceptable weed control.

### **Spot Treatment, Over-the-Top Wiper Applications**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in grain sorghum. Make spot treatments before heading of milo. This product may be applied with wiper applicators to control or suppress the weeds listed under "Wiper Applicators" in the "SELECTIVE EQUIPMENT" section of this label.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

### **Hooded Sprayers**

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of milo. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

**PRECAUTIONS, RESTRICTIONS:** Milo must be at least 12 inches tall, measured without extending leaves. Treat before milo sends tillers between the drill rows. If such tillers are contacted with the spray solution, the main plant may be killed. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers. Do not apply more than 22 fluid ounces of this product per acre per application and no more than 64 fluid ounces per acre per year for hooded sprayer applications.

### **Preharvest**

**USE INSTRUCTIONS:** Make applications at 30 percent grain moisture or less.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 44 fluid ounces of this product per acre. As with other herbicides that cause sudden plant death, avoid preharvest applications of this product to milo infected with charcoal rot as lodging can occur. Allow a minimum of 7 days between application and harvest of sorghum. Preharvest application is not recommended for sorghum grown for seed, as a reduction in germination or vigor may occur. The use of this product for preharvest grain sorghum (milo) is not registered in California.

### **Post-Harvest**

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**USE INSTRUCTIONS:** This product may be applied after harvest of grain sorghum. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 22 fluid ounces of this product per acre for control, or 16 fluid ounces of this product per acre for suppression.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

### 8.6 Herbs and Spices

**LABELED CROPS:** Allspice, Angelica, Star anise, Annatto (seed), Balm, Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Black caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese chive, Cinnamon, Clary, Clove buds, Coriander leaf (cilantro or chinese parsley), Coriander seed (cilantro), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Dill (dillweed), Dill (seed), Epazote, Fennel seed (common and Florence), Fenugreek, White ginger flower, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf and seed), Mace, Marigold, Marjoram (including oregano), Mexican oregano, Mioga flower, Mustard (seed), Nasturtium, Nutmeg, Parsley (dried), Pennyroyal, Pepper (black and white), Pepper leaves, Peppermint, Perilla, Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Spearmint, Stevia leaves, Sweet bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Over-the-Top Wiper Applications (Peppermint and Spearmint Only), Spot Treatment (Peppermint and Spearmint Only).

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to ensure that the wash water flushes off the plastic mulch and does not enter transplant holes.

#### Over-the-Top Wiper Applications, Spot Treatment (Peppermint and Spearmint Only)

**USE INSTRUCTIONS:** This product may be used as a spot treatment or wiper application in spearmint and peppermint. Apply spot treatments on a spray-to-wet basis with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, handguns, handwands or any other hand-held or motorized spray equipment used to direct the spray solution to a limited area. In wiper applications, the applicator should be adjusted so that the wiper contact point is at least 2 inches above the crop. Weeds should be a minimum of 6 inches taller than the crop.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30-day intervals. In spot treatment applications, no more than 10 percent of the total field area to be harvested should be treated at one time. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for this reason. In wiper applications, contact of the herbicide solution with the crop may result in damage or destruction.

### 8.7 Oil Seed Crops

**LABELED CROPS:** Borage, Buffalo gourd (seed), Canola, Crambe, Flax, Jojoba, Lesquerella, Meadowfoam, Mustard (seed), Rape, Safflower, Sesame, Sunflower.

For use directions for canola containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0.

**USE INSTRUCTIONS:** This product may be applied before, during or after planting oil seed crops. Broadcast applications must be made prior to emergence of the listed oil seed crops. Wiper applicators or hooded sprayers may be used between the rows once the crop is established.

**TANK MIXTURES:** For sunflowers, a tank mixture with Prowl may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

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**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 44 fluid ounces of this product per acre on canola. Do not apply more than 22 fluid ounces of this product per acre for sunflowers as a single preplant or preemergent application per-year. Do not feed or graze sunflower forage following application of this product.

### 8.8 Soybeans

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Spot Treatment, Preharvest, Selective Equipment.

For use directions for soybeans containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in a tank-mixture before, during or after planting soybeans. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** Apply these tank mixtures in 10 to 20 gallons of water per acre.

Aim	Dual II MAGNUM	Micro-Tech
Amplify™	Firstate™	Prowl
Assure™ II	Flexstar™	Pursuit™
Authority™	Frontier/Outlook	Pursuit Plus
Boundary™	Fusion™	Reflex™
Canopy™	Gauntlet™	Scepter™
Canopy XL™	IntRRo	Sencor™/Lexone™
Cobra™	Lasso	Select™
Command	Linex	Squadron™
Command Xtra	Lorox/Linuron	Steel™
Domain™	Lorox Plus™	Valor™
Dual MAGNUM		

This product may be tank-mixed with 2,4-D or 2,4-DB, provided that the specific product is registered for application prior to planting soybeans. See the 2,4-D label for intervals between application and planting.

For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces when weeds are over 6 inches tall.

**PRECAUTIONS, RESTRICTIONS:** Tank-mixtures with some of the above listed herbicides may result in reduced weed control due to antagonism. Read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used. Use according to the most restrictive directions for each product in the mixture.

#### Spot Treatment

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to initial pod set in soybeans.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

#### Preharvest

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans.

Apply at rates given in the "ANNUAL WEEDS", "PERENNIAL WEEDS", and "WOODY BRUSH AND TREES RATE SECTIONS". This product may be applied using either aerial or ground spray equipment. Apply after pods have set and lost all green color. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 3.3 quarts per acre of this product for preharvest applications. Do not apply more than 44 fluid ounces per acre of this product by air. Allow a minimum of 7 days between application and harvest of soybeans. Do not graze or harvest treated hay or fodder for livestock feed within

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25 days of last preharvest application. (If the application rate is 22 fluid ounces per acre or lower, the grazing restriction is reduced to 14 days after last preharvest application.) Preharvest application is not recommended for soybeans grown for seed, as a reduction in germination or vigor may occur.

### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans. Allow at least 7 days between application and harvest.

**PRECAUTIONS, RESTRICTIONS:** See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

## 8.9 Sugarcane

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus Spot Treatment.

### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied in or around sugarcane fields or in fields prior to the emergence of plant cane.

**PRECAUTIONS, RESTRICTIONS:** Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 1-percent solution of this product in water and spray-to-wet the foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.

**PRECAUTIONS, RESTRICTIONS:** Avoid spray contact with healthy cane plants since severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

### Fallow Treatments

**USE INSTRUCTIONS:** This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 2.5 to 3.3 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage. Ground or aerial application equipment may be used. Applications up to 64 fluid ounces per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops. Tank mixtures with 2,4-D and dicamba may be used.

### Hooded Sprayers

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of sugarcane. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional use instructions.

**PRECAUTIONS, RESTRICTIONS:** Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

## 8.10 Vegetable Crops

**NOTE:** THIS "VEGETABLE CROPS" SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED VEGETABLE CROPS WITHIN SECTION 8.10 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, Prior to Transplanting Vegetables, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, and Post-Harvest, Directed Applications (Non-Bearing Ginseng), Over-the-Top Wiper Applications (Rutabagas Only).

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**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to insure that the wash water flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

### 8.10.1 Brassica Vegetables

**LABELED CROPS:** Broccoli, Chinese broccoli (gai lon), Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens.

### 8.10.2 Bulb Vegetables

**LABELED CROPS:** Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot.

### 8.10.3 Cucurbit Vegetables and fruits

**LABELED CROPS:** Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucuzza, hechima, Chinese okra), Melons (all), *Momordica spp* (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon.

**PRECAUTIONS, RESTRICTIONS:** For Cantaloupe, Casaba melon, Crenshaw melon, Cucumber, Gherkin, Gourds, Honeydew melon, Honey ball melon, Mango melon, Melons (all), Muskmelon, Persian melon, Pumpkin, Squash (summer, winter), and Watermelon, allow at least 3 days between application and planting.

### 8.10.4 Leafy Vegetables

**LABELED CROPS:** Amaranth (Chinese spinach), Arugula (roquette), Beet greens, Cardoon, Celery, Chinese celery, Celtuce, Chaya, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Dokudami, Endive (escarole), Florence fennel, Gow kee, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Swiss chard, Watercress (upland), Water spinach.

**PRECAUTIONS, RESTRICTIONS:** For Watercress, avoid applications within 3 days prior to seeding and during the period between seeding and emergence to minimize the risk of injury.

### 8.10.5 Fruiting Vegetables

**LABELED CROPS:** Eggplant, Groundcherry (*Physalis spp*), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato.

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**PRECAUTIONS, RESTRICTIONS:** For Eggplant, Ground cherry, Pepper (all), and Tomatillo, allow at least 3 days between application and planting. For tomato, do not make hooded or shielded sprayer applications in row middles unless otherwise directed.

### 8.10.6 Legume Vegetables (succulent or dried)

**LABELED CROPS:** Bean (*Lupinus*: includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus*: includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (*Vigna*: includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (*Pisum*: includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean.

### 8.10.7 Root and Tuber Vegetables

**LABELED CROPS:** Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Beet (garden), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Galangal, Ginger, Ginseng, Horseradish, Leren, Kava (turnip-rooted), Parsley (turnip rooted), Parsnip, Potato, Radish, Oriental radish, Rutabaga, Salsify, Black salsify, Spanish salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Wasabi, Yacon, Yam bean, True yam.

#### Directed Applications (Non-Bearing Ginseng Only)

**USE INSTRUCTIONS:** This product may be used for general weed control in established non-bearing ginseng. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high volume wands, lances, and orchard guns or with wiper application equipment.

**PRECAUTIONS, RESTRICTIONS:** Direct applications so that there is no contact of this product with the ginseng plant. Applications must be made at least one year prior to harvest.

#### Over-the-Top Wiper Applications (Rutabagas Only)

**USE INSTRUCTIONS:** Wiper applicators may be used over-the-top of rutabagas.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 14 days between application and harvest of rutabagas.

### 8.11 Miscellaneous Crops

**LABELED CROPS:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: General Weed Control, Site Preparation, Spot Treatment (Asparagus), Post-Harvest (Asparagus).

For use directions for sugar beets containing a Roundup Ready gene, see the "ROUNDUP READY CROPS" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

#### General Weed Control, Site Preparation

**USE INSTRUCTIONS:** This product may be applied for general weed control or for site preparation prior to planting or transplanting crops listed in this section.

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**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to ensure that the wash water flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application.

### Spot Treatment (Asparagus)

**USE INSTRUCTIONS:** This product may be applied immediately after cutting, but prior to the emergence of new spears.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

### Post-Harvest (Asparagus)

**USE INSTRUCTIONS:** This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

**PRECAUTIONS, RESTRICTIONS:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence post-harvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

## 9.0 TREE, VINE, AND SHRUB CROPS (Alphabetical)

**NOTE:** THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED TREE, VINE, AND SHRUB CROPS WITHIN SECTION 9 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATIONS:** Preplant (site preparation) Broadcast Sprays, General Weed Control, Middles (between rows of trees, vines or bushes), Strips (within rows of trees, vines or bushes), Selective Equipment (shielded sprayers, wiper applications), Directed Sprays, Spot Treatment, Perennial Grass Suppression, Cut Stump.

Applications may be made with boom equipment, CDA equipment, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed.

### GENERAL USE INSTRUCTIONS:

This product may be applied in middles (between rows of trees or vines), strips (within rows of trees or vines), and for general weed control or perennial grass suppression in established tree fruit and nut groves, orchards, berries, and vineyards. It may also be used for site preparation prior to planting or transplanting these crops. Apply 11 fluid ounces to 3.3 quarts per acre according to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" of this label. Utilize rates at the higher end of the recommended rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 7 quarts per acre per year.

The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

### GENERAL PRECAUTIONS, RESTRICTIONS:

Extreme care must be exercised to avoid contact of herbicide solution, spray, drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees, canes and vines. Avoid applications when recent pruning wounds or other mechanical injury has occurred. Contact of this product with other than matured brown bark can result in serious crop damage or destruction. Only shielded or directed sprayers may be used in crops with potential for crop contact, and then only where there is sufficient clearance. For applications in strips (within rows of trees),

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only selective equipment (directed sprays, hooded sprayers, shielded applicators, or wipers) should be used to minimize the potential for leakage or drift of herbicide sprays onto crop. For berry crops, hooded or shielded sprayers must be fully enclosed including top, sides, front and back. Only wipers or shielded applicators capable of preventing all contact with crop may be used. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional directions and precautions.

Allow a minimum of 3 days between application and transplanting.

### Middles (between rows)

**USE INSTRUCTIONS:** This product will control or suppress annual and perennial weeds and ground covers growing between the rows of labeled tree and vine crops. If weeds are under drought stress, irrigate prior to application. Reduced control may result if weeds have been mowed prior to application.

**TANK MIXTURES:** A tank mixture of this product plus Goal 2XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations, 11 to 22 fluid ounces per acre of this product plus 3 to 11 fluid ounces per acre of Goal 2XL will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherd's-purse, annual sowthistle, filaree (suppression), horseweed/marestail, stinging nettle and common purslane (suppression). 11 to 22 fluid ounces per acre of this product plus 3 to 11 fluid ounces per acre of Goal 2XL will control common cheeseweed (malva) or hairy fleabane with a maximum height or diameter of 3 inches.

### Strips (in rows)

**TANK MIXTURES:** This product may be applied in rows of tree or vine crops in tank mixtures with the following products:

Devrinol™ 50 DF	Simazine 4L
Direx 4L	Simazine 80W
Goal 2XL	Sim-Trol™ 4L
Karmex DF	Solican™ DF
Krovar™ 1	Surflan™ AS
Prowl	Surflan 75W
Princep™ Caliber™ 90	

Do not apply these tank mixtures in Puerto Rico.

Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

### Perennial Grass Suppression

This product will suppress perennial grasses such as bahiagrass, Bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 4 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 4 fluid ounces of this product per acre. Do not add ammonium sulfate.

For best results, mow cool season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 2 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of Bermudagrass, apply 22 to 44 fluid ounces of this product in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the Bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

For suppression of Bermudagrass, apply 4 to 11 fluid ounces of this product per acre east of the Rocky Mountains and 11 fluid ounces of this product per acre west of the Rocky Mountains. Apply in a total spray volume of 3 to 20

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gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the Bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and Bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 4 to 7 fluid ounces of this product per acre should be used in shaded conditions or where a lesser degree of suppression is desired.

### Cut Stump

**USE INSTRUCTIONS:** Cut stump applications of this product may be made during site preparation or site renovation, prior to transplanting tree crops. This product will control regrowth of cut stumps and resprouts of many types of tree species, some of which are listed below.

**Citrus Trees:** Calamondin, Chironja, Citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (Tangerine), Orange (all), Pummelo, Tangelo, Tangor.

**Fruit Trees:** Apple, Apricot, Cherry (sweet, sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (all), Quince.

**Nut Trees:** Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory Nut, Macadamia, Pecan, Pistachio, Walnut (black, English).

Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

**PRECAUTIONS, RESTRICTIONS:** DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF ADJACENT DESIRABLE TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

### 9.1 Berry Crops

**LABELED CROPS:** Blackberry (including bingleberry, black satin berry, boysenberry, Cherokee blackberry, chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, juneberry, lavacaberry, lowberry, lucretiaberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, and youngberry), Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Loganberry, Raspberry (black, red), Salal.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0 plus Spot Treatment in Cranberry Production and Post-Harvest Treatments in Cranberry Production.

**PRECAUTIONS, RESTRICTIONS:** To avoid damage, herbicide sprays must not be allowed to contact desirable vegetation, including green shoots, canes, or foliage. Allow a minimum of 30 days between last application and harvest in cranberries. Allow a minimum of 14 days between last application and harvest in other berry crops. Do not make directed sprays within the cranberry bush areas prior to berry harvest.

#### Spot Treatment in Cranberry Production

**USE INSTRUCTIONS:** Spot treatments may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. Hand-held sprayers or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. Drop water level to remove standing water in ditches prior to application. In hand-held sprayers, use 1- to 1.5-percent solution of this product. Spray to wet vegetation, not to run-off.

**PRECAUTIONS, RESTRICTIONS:** For treatments after draw down of water in dry ditches, allow 2 or more days after treatment before reintroduction of water to achieve maximum weed control. Apply this product within 1 day after draw down to ensure application to actively growing weeds. Allow a minimum of 30 days between last application and harvest of cranberries. Do not apply this material through the irrigation system. Do not make applications by air. Do not apply directly to water. Use nozzles that emit medium- to large-sized droplets to minimize drift in order to avoid crop injury.

#### Post-Harvest Treatments in Cranberry Production

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**USE INSTRUCTIONS:** Application of this product may be made after the harvest of cranberries to control weeds growing within the field. Best results will be obtained if applications are made to vines that appear dormant (after they have turned red). Hand-held sprayers, wipers, or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. If using hand-held sprayers, use a 0.4- to 0.7-percent solution of this product. Spray to wet vegetation, not to run-off. If using hand-held boom sprayers, apply 44 to 86 fluid ounces of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Make applications only after cranberries have been harvested. Do not treat more than 10 percent of the total bog. Allow a minimum of 6 months after last application and next harvest of cranberries. Do not apply this product through the irrigation system. Do not make applications by air. Do not apply directly to water. Even though vines appear dormant, contact of the herbicide solution with desirable vegetation may result in damage or severe plant injury. Cranberry plants that are directly sprayed may be killed.

### 9.2 Citrus

**LABELED CROPS:** Calamondin, Chironja, Citron, Citrus Hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (all), Pummelo, Satsuma Mandarin, Tangelo (ugli), Tangor.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**USE INSTRUCTIONS:** (The recommendations below pertain to Florida and Texas.)

For burndown or control of the weeds listed below, apply the recommended rates of this product in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 44 to 64 fluid ounces of this product per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 44 fluid ounces per acre when plants are less than 8 inches tall and 64 fluid ounces per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the addition of Krovar I or Karmex may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

Perennial weeds:

S = Suppression  
PC = Partial control

B = Burndown  
C = Control

WEED SPECIES	[INSERT BRAND NAME] RATE PER ACRE			
	0.7 QT	1.3 QT	2 QT	3.3 QT
Bermudagrass	B	--	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	--	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	--	PC	C

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in citrus crops. For citron groves, apply as directed sprays only.

### 9.3 Miscellaneous Tree Food Crops

**LABELED CROPS:** Cactus (fruit and pads), Palm (heart, leaves), Palm (oil).

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

### 9.4 Non-Food Tree Crops

**LABELED CROPS:** Pine, Poplar, Eucalyptus, Christmas Trees, Other non-food tree crops.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**NOTE:** Unless otherwise directed, this product is not recommended for use as an over-the-top broadcast spray in plantations or other labeled tree crops.

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### Directed Sprays, Spot Treatment, Wiper Applications

USE INSTRUCTIONS: This product may be used as a post-directed spray and spot treatment around established poplar, eucalyptus, Christmas trees and other non-food tree crops.

PRECAUTIONS, RESTRICTIONS: Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established Christmas trees and other pine trees. Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

### Site Preparation

USE INSTRUCTIONS: This product may be used prior to planting.

PRECAUTIONS, RESTRICTIONS: Precautions should be taken to protect non-target plants during site preparation applications.

### 9.5 Pome Fruit

LABELED CROPS: Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince.

TYPES OF APPLICATIONS: Those listed in Section 9.0.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 1 day between last application and harvest in pome crops.

### 9.6 Stone Fruit

LABELED CROPS: Apricot, Cherry (sweet, tart), Nectarine, Olive, Peach, Plum/Prune (all types), Plumcot.

TYPES OF APPLICATIONS: Those listed in Section 9.0, except for olive groves, apply as directed sprays only.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 17 days between last application and harvest in stone fruit crops. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. **EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.**

**9.7 Tree Nuts**  
LABELED CROPS: Almond, Beechnut, Betelnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Coconut, Filbert (hazelnut), Hickory nut, Macadamia, Pecan, Pine nut, Pistachio, Walnut (black, English).

TYPES OF APPLICATIONS: Those listed in Section 9.0.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 3 days between last application and harvest of tree nuts, except coconut. Allow 14 days between application and harvest in coconut.

### 9.8 Tropical and Subtropical Trees and Fruits

LABELED CROPS: Ambarella, Atemoya, Avocado, Banana, Barbados cherry (acerola), Biriba, Blimbè, Breadfruit, Cacao (cocoa) bean, Canistel, Carambola (starfruit), Cherimoya, Coffee, Custard apple, Dates, Durian, Feijoa, Figs, Governor's plum, Guava, Ilama, Imbe, Imbu, Jaboticaba, Jackfruit, Longan, Lychee, Mamey apple, Mango, Mangosteen, Marmaladebox (genip), Mountain papaya, Papaya, Pawpaw, Plantain, Persimmon, Pomegranate, Pulasan, Rambutan, Rose apple, Sapodilla, Sapote (black, mamey, white), Spanish lime, Soursop, Star apple, Sugar apple, Surinam cherry, Tamarind, Tea, Ti (roots and leaves), Wax jambu.

TYPES OF APPLICATIONS: Those listed in Section 9.0 plus Bananacide (Banana only).

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 1 day between last application and harvest in banana, guava, papaya, and plantain crops. Allow a minimum of 14 days between last application and harvest for any other tropical or subtropical tree fruit. Allow a minimum of 28 days between last application and harvest in coffee crops. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

#### Bananacide (Banana only)

USE INSTRUCTIONS: This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus as well as non-infected banana plants to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 0.04 fluid ounce (1 mL) of this product's

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concentrate per 2 to 3 inches of pseudostem diameter. Make the injection at least one foot above the ground, except for very small plants, which should be injected vertically into the top. Any subsequent regrowth must also be destroyed. All plants and mats (or units) adjacent (within a 4-foot radius) to a treated mat shall be mechanically destroyed.

For control of the Banana Bunchy Top Virus, it is critical that the grower follow a strict control program involving monitoring for diseased plants, spraying to control the aphid vector, and destruction of all infected mats (or units). An infected plant may not show symptoms of the banana bunchy top virus for up to 125 days, therefore it is critical that the entire mat (or unit) containing the diseased plant be destroyed immediately.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 0.5 fluid ounce (15 mL) of this product's concentrate per mat (or unit). Remove all fruit from plants and mats (or units) prior to treatment. Do not harvest any fruit or plant materials from treated mats (or units) following injection. Do not allow livestock to consume treated plant materials. Following transplant of new banana plants into treated areas, allow plants to become established for 3 months before applying this product for general weed control.

### 9.9 Vine Crops

**LABELED CROPS:** Grapes (raisin, table, wine) Hops, Kiwi, Passion fruit.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

Applications should not be made when green shoots, canes or foliage are in the spray zone.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury, or make applications with shielded sprayers or wiper equipment.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 14 days between last application and harvest in vine crops. Do not use selective equipment in kiwi.

## 10.0 PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS

### 10.1 Alfalfa, Clover, and Other Forage Legumes

**LABELED CROPS:** Alfalfa, Clover, Kenaf, Kudzu, Lespedeza, Leucaena, Lupin, Sainfoin, Trefoil, Velvet bean, Vetch (all types).

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Preharvest (except Kenaf and Leucaena), Spot Treatment, Over-the-Top Wiper Applications, Renovation.

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting crops listed in this section. Applications must be made prior to emergence of the crop.

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application. The crop may be fed or grazed as soon as it reaches sufficient maturity.

#### Preharvest (except Kenaf and Leucaena)

**USE INSTRUCTIONS:** This product may be used in declining stands or any stand where severe crop injury or destruction is acceptable. This product will control annual and perennial weeds, including quackgrass, when applied prior to crop harvest. Applications may be made at any time of the year. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control.

#### PRECAUTIONS, RESTRICTIONS:

Make only one application to an existing crop stand per year. The treated crop and weeds can be harvested and fed to livestock according to the intervals below.

	Maximum Single Application Rate*	Minimum Interval between application and harvest/grazing
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Alfalfa	44 fluid ounces	36 hours
All other labeled legumes above	32 fluid ounces	3 days

\* By aerial or ground broadcast spray

This application may destroy an alfalfa stand and may severely injure or destroy other labeled crops such as clover. Preharvest application is not recommended for alfalfa grown for seed, as a reduction in germination or vigor may occur.

### Spot Treatment, Over-the-Top Wiper Applications

USE INSTRUCTIONS: This product may be applied as a spot treatment or with wiper applicators. For wipers, see the "Wiper Applicators" in the "SELECTIVE EQUIPMENT" section of this label. Applications may be made in the same area at 30-day intervals.

PRECAUTIONS, RESTRICTIONS: For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than 10 percent of the total field area should be treated at one time. Remove domestic livestock before application and wait 3 days after application before grazing livestock or harvesting.

### Renovation

USE INSTRUCTIONS: This product may be applied as a broadcast spray to renovate existing stands of alfalfa, clover, and other labeled forage legumes. If the crop is to be grazed or harvested for feed, use up to 44 fluid ounces per acre in alfalfa and up to 32 fluid ounces per acre in other labeled legumes. For complete removal of established stands of clover, it may be necessary to use the higher treatment rates listed in the "PERENNIAL WEEDS RATE SECTION".

PRECAUTIONS, RESTRICTIONS: When treatment rates of 44 fluid ounces per acre for alfalfa or 32 fluid ounces per acre for other forage legumes are used, remove domestic livestock before application and wait 3 days after application before reintroduction. If treatment rates above these levels are necessary, do not graze or harvest treated foliage for livestock feed. Crops listed for treatment in this label may be planted into the treated area at any time; for other crops, wait 30 days between application and planting.

## 10.2 Conservation Reserve Program (CRP)

TYPES OF APPLICATIONS: Renovation (rotating out of CRP), Site Preparation, Postemergence Weed Control in Dormant CRP Grasses, Over-the-Top Wiper Applications.

### Renovation (Rotating out of CRP), Site Preparation

USE INSTRUCTIONS: This product may be used to prepare CRP land for crop production. Refer to Federal, state or local use guides for CRP renovation recommendations. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting.

### Postemergence Weed Control in Dormant CRP Grasses, Over-the-Top Wiper Applications

USE INSTRUCTIONS: This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 8 to 11 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

PRECAUTIONS, RESTRICTIONS: Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 2 quarts per acre per year onto CRP grasses.

## 10.3 Grass Seed or Sod Production

LABELLED CROPS: Any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in this label under "CEREAL CROPS".

## I. MAIN LABEL FOR FOOD CROP USES

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Renovation, Removal of Established Stands, Site Preparation, Shielded Sprayers, Over-the-Top Wiper Applications, Spot Treatment, Creating Rows in Annual Ryegrass.

### **Preplant, Preemergence, At-Planting, Renovation, Removal of Established Stands, Site Preparation**

**USE INSTRUCTIONS:** This product controls most existing vegetation prior to renovating turf or forage grass seed areas or establishing turf grass grown for sod. It may also be used to destroy remaining undesired grass vegetation when production fields are converted to alternate species or crops. Make applications before, during, or after planting or for renovation. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as Bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates up to 3.3 quarts per acre may be used to totally remove established stands of tough to kill grass species.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting. Applications must be made prior to the emergence of the crop to avoid crop injury.

### **Shielded Sprayers**

**USE INSTRUCTIONS:** Apply 22 to 64 fluid ounces of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aid in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields. For additional instructions, see "Hooded and Shielded Applicators" in the "SELECTIVE EQUIPMENT" section.

**PRECAUTIONS, RESTRICTIONS:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

### **Over-the-Top Wiper Applications**

**USE INSTRUCTIONS:** Applicators should be adjusted so that the wiper contact point is at least 2 inches above the desirable vegetation. Weeds should be a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when height of weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. For additional instructions, see "Wiper Applicators" in the "SELECTIVE EQUIPMENT" section.

**PRECAUTIONS, RESTRICTIONS:** Contact of the herbicide solution with desirable vegetation may result in d

### **Spot Treatment**

**USE INSTRUCTIONS:** Use a 1.0-percent solution.

**PRECAUTIONS, RESTRICTIONS:** Apply this product prior to heading of grasses grown for seed. The crop receiving the spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason. Hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

### **Creating Rows in Annual Ryegrass**

**USE INSTRUCTIONS:** Use 11 to 22 fluid ounces of this product per acre. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height.

**PRECAUTIONS, RESTRICTIONS:** Set nozzle heights to allow the establishment of the desired row spacing while preventing spray droplets, spray fines, or drift to contact the ryegrass plants not treated. Use of low-pressure nozzles, or drop nozzles designed to target the application over a narrow band are recommended.

**Grower assumes all responsibility for crop losses from misapplication.**

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### 10.4 Pastures

**LABELLED CROPS:** Any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in this label under "CEREAL CROPS". Including Bahiagrass, Bermudagrass, Bluegrass, Brome, Fescue, Guinea grass, Kikuyugrass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass.

**TYPES OF APPLICATIONS:** Preplant, Preemergence, pasture Renovation, Spot Treatment, Over-the-Top Wiper Applications, Postemergent Weed Control (Broadcast Treatments).

#### **Preplant, Preemergence, Pasture Renovation**

**USE INSTRUCTIONS:** This product may be applied prior to planting or emergence of forage grasses. In addition, this product may be used to control perennial pasture species listed on this label prior to re-planting.

**PRECAUTIONS, RESTRICTIONS:** If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding of livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Crops listed for treatment in this label may be planted into the treated area at any time; for other crops, wait 30 days between application and planting.

#### **Spot Treatment, Over-the-Top Wiper Applications**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatments or wiper application methods using rates of 2 quarts per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper application are made using rates above 2 quarts per acre, no more than 10 percent of the total pasture may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting.

#### **Postemergent Weed Control (Broadcast Treatments)**

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of annual weeds and undesirable vegetation in pastures. For selective applications with broadcast spray equipment, apply 8 to 11 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Use of higher application rates will cause stand reductions. Do not apply more than 2 quarts per acre per year onto pasture grasses except for renovation uses (see instructions above). If replanting is needed due to severe stand reduction, applications must be made at least 30 days prior to planting any crop not listed for treatment in this label.

### 10.5 Rangelands

**TYPES OF APPLICATIONS:** Postemergence.

This product will control or suppress many annual weeds growing in perennial cool and warm-season grass rangelands.

Preventing viable seed production is key to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years should eliminate most of the viable seeds.

Grazing of treated areas should be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.

**USE INSTRUCTIONS:** Apply 8 to 11 fluid ounces of this product per acre to control or suppress many weeds, including downy brome, cheatgrass, cereal rye and jointed goatgrass in rangelands. Apply when most brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Fall applications are possible, and recommended, where spring moisture is usually limited and fall germination allows for good weed growth.

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For medusahead, apply 11 fluid ounces of this product per acre at the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Controlled burning may be useful in eliminating the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a burn. Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses in medusahead-dominated rangelands.

**PRECAUTIONS, RESTRICTIONS:** Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off. Do not use ammonium sulfate when spraying rangeland grasses with this product.

No waiting period between treatment and feeding of livestock grazing is required. Do not apply more than 2 quarts per acre per year.

### 11.0 ROUNDUP READY CROPS

The following instructions or those separately published on Monsanto Supplemental labeling include all applications which can be made onto the specified Roundup Ready crops during the complete cropping season. Do NOT combine these instructions with other recommendations made for crops that do not contain a Roundup Ready gene, in the "ANNUAL AND PERENNIAL CROPS (ALPHABETICAL)" section of this label, unless otherwise directed in this product label, supplemental labeling or fact sheets published separately by Monsanto.

**MONSANTO COMPANY RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON CROPS DESIGNATED AS CONTAINING A ROUNDUP READY GENE.**

Applying this product to crops that are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants that do not contain the Roundup Ready gene, since severe injury or destruction will result.

The Roundup Ready designation indicates that the crop variety contains a patented gene that provides tolerance to this product. Information on Roundup Ready crops may be obtained from your seed supplier or Monsanto representative. Roundup Ready crops must be purchased from an authorized licensed seed supplier.

**NOTE:** Roundup Ready seed, and the method of selectively controlling weeds in a Roundup Ready crop by applying glyphosate to the weeds and Roundup Ready crop are protected under several U.S. Patents, including 5,352,605 and 5,633,435. A license to use Roundup Ready seed must be obtained prior to use. Monsanto retains ownership of the gene and process technologies, and the Purchaser of the seed receives the right to use the licensed genes and technologies subject to the limited use license conditions. Seed containing the Roundup Ready trait cannot be used for research and demonstration, reverse engineering or in connection with herbicide registration. Progeny seed containing the Roundup Ready trait cannot be saved for replanting or transferred to others for replanting. Contact your Authorized Monsanto Retailer for information on obtaining a limited use license.

For ground applications with broadcast equipment, apply this product in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment use flat spray nozzles. Check for even distribution of spray droplets.

For aerial applications apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for procedures to avoid spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

For proper stewardship of aerial applications over-the-top of Roundup Ready crops, Monsanto recommends that growers and applicators read and follow all precautions and procedures contained in the use guide "A Guide to On-Target Aerial Application" available by calling 1-800-ROUNDUP (1-800-768-6387).

**ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.**

See the "MIXING" and "APPLICATION EQUIPMENT AND TECHNIQUES" sections of this label for additional directions and restrictions on the application of this product.

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Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers may result in reduced weed control or crop injury and are NOT recommended for over-the-top applications of this product unless otherwise noted in this product label, supplemental labeling or fact sheets published separately by Monsanto.

Unless otherwise directed, nonionic surfactant may be added to the spray solution for applications to Roundup Ready crops. The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Refer to individual crops within this section of this label or separately published supplemental labeling for additional precautions or restrictions. In addition, always read and carefully observe cautionary statements and other information appearing on the surfactant label.

Ammonium sulfate may be mixed with this product for applications to Roundup Ready crops. Refer to the "MIXING" section for use instructions for ammonium sulfate.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product. Follow the cleaning procedures specified on the label of the product(s) previously used. **THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.**

**NOTE:** The following recommendations are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burndown treatment of this product is recommended to control existing weeds prior to crop emergence. Some weeds, such as black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sandbur, annual morningglory, woolly cupgrass, shattercane, wild proso millet, burcucumber, and giant ragweed with multiple germination times or suppressed (stunted) weeds may require a second application of this product for complete control. The second application should be made after some regrowth has occurred and at least 10 days after a previous application of this product.

### 11.1 Canola—Roundup Ready

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence

**DO NOT USE THIS PRODUCT ON CANOLA CONTAINING A ROUNDUP READY GENE PLANTED IN THE FOLLOWING STATES: ALABAMA, DELAWARE, FLORIDA, GEORGIA, KENTUCKY, MARYLAND, NEW JERSEY, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, VIRGINIA AND WEST VIRGINIA, EXCEPT FOR USES IN WILDLIFE FOOD PLOTS THAT WILL NOT BE HARVESTED FOR HUMAN OR LIVESTOCK FOOD.**

<b>Maximum Allowable Combined Application Quantities Per Season</b>	
Preplant, At-Planting, Preemergence applications	44 fluid ounces per acre
Total in-crop application from emergence to 6-leaf stage	22 fluid ounces per acre

#### **Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting canola.

#### **Postemergence**

**USE INSTRUCTIONS:** This product may be applied postemergence to Roundup Ready Spring canola from emergence through the 6-leaf stage of development. Applications made during bolting or flowering may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

**Weeds Controlled:** For specific rates of application and instructions, refer to the "ANNUAL" and "PERENNIAL WEEDS RATE SECTIONS" in this label.

**Single Application—**Apply 11 to 16 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications that may result in temporary yellowing, delayed flowering, and or growth reduction. Similar injury may result when applications of more than 11 fluid ounces per acre are applied after the 4-leaf stage.

**Sequential Application—**Apply 11 fluid ounces per acre to 1- to 3-leaf canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential applications are

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recommended for early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass or when controlling weeds with multiple application times.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. No more than two over-the-top broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total in-crop application should not exceed 22 fluid ounces per acre. Allow a minimum of 60 days between last application and canola harvest.

**NOTE:** The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Always read and carefully observe cautionary statements and other information appearing on the surfactant label.

### 11.2 Corn—Roundup Ready

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence (in-crop), Spot Treatment, Preharvest, Post-Harvest.

<b>Maximum Allowable Combined Application Quantities Per Season</b>	
Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
In-crop applications	
<b>Roundup Ready Corn</b> from emergence through V8 or 30 inches	44 fluid ounces per acre (22 fluid ounces per acre per application)
<b>Roundup Ready Corn 2</b> from emergence through 48 inches	64 fluid ounces per acre (32 fluid ounces per acre per application)
Preharvest application	22 fluid ounces per acre See PRECAUTIONS, RESTRICTIONS section for Preharvest applications.

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in a tank-mixture before, during or after planting corn.

**TANK MIXTURES:** This product may be tank mixed with Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, Lariat, Lasso or Micro-Tech at 50 to 100 percent of labeled rate. Refer to the specific product label and observe all precautions and limitations on the label for any preemergence herbicide application, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines—the more restrictive requirements apply.

**NOTE:** For maximum weed control, a postemergence (in-crop) application of this product should be applied following the use of less than labeled rates of the preemergence residual products listed above.

#### Postemergence (in-crop)

**USE INSTRUCTIONS:** This product may be applied alone or in tank-mixtures postemergence (in-crop) to corn hybrids designated as Roundup Ready Corn or Roundup Ready Corn 2. When applied as directed, this product controls labeled annual grass and broadleaf weeds. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. A postemergent application of 16 to 22 fluid ounces per acre of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop, generally 4 inch tall weeds or less. If new flushes of weeds occur, a sequential application of this product at 16 to 22 fluid ounces per acre will control the labeled grasses and broadleaf weeds.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label booklet for general precautionary instructions for use in Roundup Ready Crops. Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage or grain. **The use of additional surfactant or other additives, including fertilizers and micro-nutrients in the spray solution may result in crop injury and reduced yield and is not recommended for over-the-top**

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applications of this product to Roundup Ready Corn or Roundup Ready Corn 2, unless otherwise directed in supplemental labeling or fact sheets published separately by Monsanto.

### Specific use instructions:

- **Roundup Ready Corn:** This product may be applied over-the-top broadcast or with drop nozzles postemergence to Roundup Ready Corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first. Drop nozzles *are recommended* for optimum spray coverage and weed control when corn height is 24 to 30 inches.

PRECAUTIONS, RESTRICTIONS: Single in-crop applications of this product are not to exceed 22 fluid ounces per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 44 fluid ounces per acre per growing season.

- **Roundup Ready Corn 2:** This product may be applied over-the-top broadcast or with drop nozzles postemergence to Roundup Ready Corn 2 from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches (free standing), whichever comes first. Drop nozzles *are recommended* for optimum spray coverage and weed control when corn height is 24 to 30 inches. For corn heights 30 to 48 inches (free standing), apply this product *only* using ground application equipment equipped with drop nozzles aligned to avoid spraying into the whorls of the corn plants.

PRECAUTIONS, RESTRICTIONS: Single in-crop applications of this product should not exceed 32 fluid ounces per acre. Sequential in-crop applications of this product from emergence through 48 inches in height must not exceed a total of 64 fluid ounces per acre per growing season.

Postemergence tank mixtures: This product may be applied in tank mixture with Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, and Micro-Tech at 50 to 100 percent of their labeled rate. This product may be applied in tank mixture with Permit<sup>®</sup>, Yukon<sup>™</sup> and Atrazine at their labeled rates. Refer to the specific product label and observe all precautions and limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines—the more restrictive requirements apply. The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product under hard water conditions, drought conditions or when tank mixed with Degree Xtra, Harness Xtra, Harness Xtra 5.6L, Bullet, Micro-Tech or Atrazine herbicides.

Tank-mix Partner	Maximum Height Of Corn For Application
Degree Degree Xtra Harness Harness Xtra Harness Xtra 5.6L	11 inches
Bullet* Micro-Tech*	5 inches
Permit Yukon	30 inches
Atrazine	12 inches

\*Bullet and Micro-Tech are not registered for use as a postemergence application in Texas.

### Preharvest

USE INSTRUCTIONS: This product can be applied preharvest at use rates up to 22 fluid ounces per acre. Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between application and harvest or feeding of corn stover or grain. In Roundup Ready Corn 2, a preharvest application may *only* be made if the combined total of previously applied over-the-top or drop nozzle applications does not exceed 44 fluid ounces of this product per acre.

### Post-Harvest

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**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

### 11.3 Cotton—Roundup Ready

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Over-the-Top, Selective Equipment, Preharvest.

<u>Maximum Allowable Combined Application Quantities Per Season</u>	
Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total in-crop applications from ground cracking to layby	2.5 quarts per acre
Maximum preharvest application rate	44 fluid ounces per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. The combined total application of this product from cotton emergence until harvest must not exceed 4 quarts per acre. NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-LEAF (NODE) STAGE OF DEVELOPMENT. NO MORE THAN TWO APPLICATIONS SHOULD BE MADE FROM THE 5-LEAF STAGE THROUGH LAYBY. SEQUENTIAL IN-CROP OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS. ALLOW A MINIMUM OF 7 DAYS BETWEEN APPLICATION AND HARVEST.

#### **Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton.

#### **Over-the-Top**

**USE INSTRUCTIONS:** This product may be applied by aerial or ground application equipment at rates up to 22 fluid ounces per acre per application postemergence to Roundup Ready cotton from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Over-the-top applications made after the 4-leaf (node) stage of development may result in boll loss, delayed maturity and/or yield loss.

**Salvage Treatment.** This treatment may be used after the 4-leaf stage of development and should only be used where weeds threaten to cause the loss of the crop. 22 fluid ounces per acre may be applied either as an over-the-top applications or as a post-directed treatments sprayed higher on the cotton plants and over the weeds. **NOTE: SALVAGE TREATMENTS WILL RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS. NO MORE THAN ONE SALVAGE TREATMENT SHOULD BE USED PER GROWING SEASON.**

**NOTE:** For specific rates of application and instructions, refer to the "ANNUAL" and "PERENNIAL WEEDS RATE SECTIONS" in this label.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. DO NOT ADD SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR OVER-THE-TOP APPLICATIONS TO ROUNDUP READY COTTON.

#### **Selective Equipment**

**USE INSTRUCTIONS:** This product may be applied using precision post-directed or hooded sprayers at rates up to 22 fluid ounces per acre per application to Roundup Ready cotton through layby. At this stage, post-directed equipment should be used which directs the spray to the base of the cotton plants. Contact of the spray with cotton

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leaves should be avoided to the maximum extent possible. To minimize spray onto the leaves of the cotton plants, place nozzles in a low position directing a horizontal spray pattern under the cotton leaves to contact weeds in the row, and maintain low spray pressure (less than 30 psi). For best results, make applications while weeds are small (less than 3 inches).

**PRECAUTIONS, RESTRICTIONS:** See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

### Preharvest

**USE INSTRUCTIONS:** This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20 percent boll crack. Up to 44 fluid ounces of this product may be applied using either aerial or ground spray equipment. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Do not apply this product to cotton grown for seed, as a reduction in germination or vigor may occur. **DO NOT ADD SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR APPLICATIONS MADE AT A PREHARVEST TIMING IN COTTON.**

**ATTENTION: USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON, HOWEVER, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.**

### 11.4 Soybeans— Roundup Ready

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence, Preharvest, Post-Harvest

<u>Maximum Allowable Combined Application Quantities Per Season</u>	
Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total in-crop applications from cracking throughout flowering	64 fluid ounces per acre
Maximum preharvest application rate	22 fluid ounces per acre

**PRECAUTIONS/RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops.

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting soybeans.

#### Postemergence

**USE INSTRUCTIONS:** When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Applications of this product can be made in Roundup Ready soybeans from emergence (cracking) throughout flowering. Refer to the "ANNUAL WEEDS RATE SECTION" in this label for rate recommendations for specific annual weeds. In general, an initial application of 22 fluid ounces per acre on 2 to 8 inch tall weeds is recommended. Weeds will generally be 2 to 8 inches tall, 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 44 fluid ounces per acre in any single in-crop application for control of annual weeds and where heavy weed densities exist.

A 22- to 44-fluid-ounce per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: Bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, marestail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp

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smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this may be necessary to control late flushes of weeds. IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY SOYBEAN CROP. To control giant ragweed, it is recommended that 22 fluid ounces per acre of this product be applied when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for a sequential application.

**PRECAUTIONS, RESTRICTIONS:** The combined total application from crop emergence through harvest must not exceed 64 fluid ounces per acre. The maximum rate for any single in-crop application is 44 fluid ounces per acre. The maximum combined total of this product that can be applied during flowering is 44 fluid ounces per acre.

**NOTE:** The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Always read and carefully observe cautionary statements and other information appearing on the surfactant label.

### Preharvest

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans. Up to 22 fluid ounces per acre of this product can be applied by aerial or ground application.

**PRECAUTIONS, RESTRICTIONS:** Care should be taken to avoid excessive seed shatter loss due to ground application equipment. Allow a minimum of 14 days between final application and harvest of soybean grain or feeding of soybean grain, forage or hay.

### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied after harvest of Roundup Ready soybeans. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

## 11.5 Sugar beets—Roundup Ready

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Postemergence.

<b>Maximum Allowable Combined Application Quantities Per Season</b>	
Combined total per year for all applications	5.3 quarts per acre
Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Emergence to 8-leaf stage	56 fluid ounces per acre
Between 8-leaf stage and canopy closure	44 fluid ounces per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. The combined total application from crop emergence through harvest must not exceed 3 quarts per acre. The maximum rate for any single application from crop emergence until the 8-leaf stage is 32 fluid ounces per acre. The maximum rate for any single application between the 8-leaf stage and canopy closure is 22 fluid ounces per acre. Allow a minimum of 30 days between last application and sugar beet harvest.

### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of Roundup Ready sugar beets.

### Postemergence

**USE INSTRUCTIONS:** This product may be applied postemergent over-the-top to Roundup Ready sugar beets from emergence to 30 days prior to harvest. To maximize yield potential spray sugar beets early to eliminate competing weeds. Up to 4 sequential applications of this product may be made with at least 10 days between applications. Refer to the "ANNUAL WEEDS RATE SECTION" in this label for rate recommendations for specific annual weeds. This product will control or suppress, most perennial weeds. For some perennial weeds, repeat applications may be required to eliminate crop competition throughout the growing season.

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**NOTE:** The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Always read and carefully observe cautionary statements and other information appearing on the surfactant label.

### 12.0 NON-CROP USES AROUND THE FARMSTEAD

**TYPES OF APPLICATIONS:** General Weed Control, Trim-and-Edge, Greenhouse/shadehouse, Chemical Mowing, Cut Stump, Habitat Management.

#### 12.1 General Weed Control and Trim-and-Edge

**USE INSTRUCTIONS:** This product may be used to control annual weeds, perennial weeds and woody brush which are found in any part of the farmstead, including building foundations, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 22 fluid ounces per acre of this product when weeds are less than 6 inches tall, 32 fluid ounces per acre when weeds are 6 to 12 inches tall and 44 fluid ounces per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 44 fluid ounces to 3.3 quarts per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the "ANNUAL WEEDS—HAND-HELD OR HIGH VOLUME EQUIPMENT" section of this label for recommended rates.

Arsenal™  
Banvel/Clarity  
Barricade™ 65WG  
Diuron  
Endurance™  
Escort™  
Karmex DF  
Krovar I DF  
Oust™  
Pendulum™ 3.3 EC  
Pendulum WDG

Plateau™  
Princep DF  
Princep Liquid  
Ronstar™ 50WP  
Sahara™  
Simazine  
Surflan  
Telar™  
Vanquish™  
2,4-D

This product plus dicamba tank mixtures may not be applied by air in California.

#### 12.2 Greenhouse/Shadehouse

This product may be used to control weeds in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

#### 12.3 Chemical Mowing

**USE INSTRUCTIONS:** This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 4 fluid ounces of this product per acre when treating Kentucky bluegrass. Use 4 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, bahiagrass or quackgrass covers. Use 11 fluid ounces of this product per acre when treating Bermudagrass. Use 44 fluid ounces of this product per acre when treating torpedograss or paragrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

**PRECAUTIONS, RESTRICTIONS:** Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

#### 12.4 Cut Stump

**TYPES OF APPLICATION:** Treating cut stumps in any non-crop site listed on this label.

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**USE INSTRUCTIONS:** This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion

Alder  
Eucalyptus  
Madrone  
Oak  
Pepper, Brazilian  
Pine, Austrian

Reed, giant  
Saltcedar  
Sweetgum  
Tan oak  
Willow

**PRECAUTIONS, RESTRICTIONS:** Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

### 12.5 Habitat Management

**TYPES OF USES:** Habitat Restoration and Maintenance, Wildlife Food Plots.

#### Habitat Restoration and Maintenance

**USE INSTRUCTIONS:** This product may be used to control exotic and other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement.

#### Wildlife Food Plots

**USE INSTRUCTIONS:** This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species, including Roundup Ready canola, may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage. For specific product application instructions in Roundup Ready canola wildlife food plots, see the "CANOLA—ROUNDUP READY" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Do not process treated Roundup Ready canola seed from wildlife food plots for food or domestic livestock feed. Do not graze or feed treated Roundup Ready canola from wildlife food plots to domestic livestock. There are no rotational restrictions for planting any wildlife food species or for allowing native species to repopulate the area following applications of this product.

### 13.0 ANNUAL WEEDS RATE SECTION

When water carrier volumes are between 16 and 40 gallons per acre for ground applications and between 6 and 15 gallons per acre for aerial applications, the following use rates will control the annual weeds listed in the table below:

- 22 fluid ounces per acre—grass and broadleaf annual weeds less than 6 inches in height or circumference and vines less than 3 inches in length.
- 32 fluid ounces per acre—grass and broadleaf annual weeds 6 to 12 inches in height or circumference and vines 3 to 6 inches in length.
- 44 fluid ounces per acre—grass and broadleaf annual weeds greater than 12 inches in height or circumference and vines greater than 6 inches in length.

**WHEN WATER CARRIER VOLUMES ARE BETWEEN 3 AND 15 GALLONS PER ACRE FOR GROUND APPLICATIONS AND BETWEEN 3 AND 5 GALLONS PER ACRE FOR AERIAL APPLICATIONS, USE THE RATES SPECIFIED FOR INDIVIDUAL WEEDS AS FOLLOW IN THE "ANNUAL WEEDS RATE TABLE" (Alphabetically by Species).**

Apply to actively growing annual weeds. Annual weeds are generally easiest to control when they are small.

Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

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Maximum size refers to the maximum plant height, length of runners for vines or circumference of rosette plants in inches.

Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.

For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

This product may be used up to 44 fluid ounces per acre where heavy weed densities exist.

## ANNUAL WEEDS RATE TABLE

WEED SPECIES	RATE (fluid ounces per acre)				
	11	16	22	27	32
	Maximum size (in inches)				
Ammannia, purple	3	6	12	-	18
Annoda, spurred	-	2	3	5	8
Barley	18	18+	-	-	-
Barnyardgrass	-	3	6	7	9
Bassia, fivehook	-	-	6	-	-
Beggarweed, Florida	-	5	8	-	-
Bittercress	12	20	-	-	-
Bluegrass, annual	10	-	-	-	-
Bluegrass, bulbous	6	-	-	-	-
Brome, downy <sup>1,2</sup>	6	12	-	-	-
Brome, Japanese	6	12	24	-	-
Browntop panicum	6	8	12	-	24
Buckwheat, wild <sup>3</sup>	-	1	2	-	-
Burcucumber	-	6	12	-	18
Buttercup	12	20	-	-	-
Carolina geranium	-	-	4	-	9
Carpetweed	-	6	12	-	-
Cheat <sup>2</sup>	6	20	-	-	-
Chervil	20	-	-	-	-
Chickweed	-	12	18	-	-
Cocklebur	12	18	24	-	36
Copperleaf, hophornbeam	-	2	4	-	6
Copperleaf, Virginia	-	2	4	-	6
Coreopsis, plains	-	6	12	-	18
Corn, volunteer	6	12	20	-	-
Corn speedwell	12	-	-	-	-
Crabgrass	3	6	12	-	-
Crowfootgrass	-	-	6	-	12
Cutleaf evening primrose	-	-	3	-	6
Devilsclaw (unicorn plant)	-	3	6	-	-
Dwarf dandelion	12	-	-	-	-

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Eastern manna grass	8	12	-	-	-
Eclipta	-	4	8	12	-
Fall panicum	4	-	6	-	12
Falsedandelion	-	20	-	-	-
Fiddleneck	-	6	12	-	-
Field pennycress	6	12	-	-	-
Filaree	-	-	6	-	12
Fleabane, annual	6	20	-	-	-
Fleabane, hairy ( <i>Conyza bonariensis</i> )	-	-	6	-	10
Fleabane, rough	3	6	12	-	-
Florida pusley	-	-	4	-	6
Foxtail, giant, bristly, yellow	6	12	20	-	-
Foxtail, Carolina	10	-	-	-	-
Foxtail, green	12	-	-	-	-
Goatgrass, jointed	6	12	-	-	-
Goosegrass	-	3	6	-	12
Grain sorghum (milo)	6	12	20	-	-
Groundcherry	-	3	6	-	9
Groundsel, common	-	6	10	-	-
Hemp sesbania	-	2	4	6	8
Henbit	-	-	6	-	12
Horseweed/Marestail ( <i>Conyza canadensis</i> )	-	6	12	-	18
Itchgrass	6	8	12	-	18
Jimsonweed	-	-	12	-	18
Johnsongrass, seedling	6	12	18	-	24
Junglerice	-	3	6	7	9
Knotweed	-	-	6	-	12
Kochia <sup>4</sup>	-	3 - 6	12	-	-
Lambsquarters	-	6	12	-	20
Little barley	6	12	-	-	-
London rocket	6	-	24	-	-
Mayweed	-	2	6	12	18
Morningglory, annual ( <i>Ipomoea spp</i> )	-	-	3	-	6
Mustard, blue	6	12	18	-	-
Mustard, tansy	6	12	18	-	-
Mustard, tumble	6	12	18	-	-
Mustard, wild	6	12	18	-	-
Nightshade, black	-	4	6	-	12

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Nightshade, hairy	-	4	6	-	12
Oats	3	6	18	-	-
Pigweed species	-	12	18	24	-
Prickly lettuce	-	6	12	-	-
Purslane	-	-	3	-	6
Ragweed, common	-	6	12	-	18
Ragweed, giant	-	6	12	-	18
Red rice	-	-	4	-	-
Rye, volunteer/cereal <sup>2</sup>	6	18	18+	-	-
Ryegrass	-	-	6	-	12
Sandbur, field	6	12	-	-	-
Sandbur, longspine	6	12	-	-	-
Shattercane	6	12	20	-	-
Shepherd's-purse	6	12	-	-	-
Sicklepod	-	2	4	-	8
Signalgrass, broadleaf	-	3	6	7	9
Smartweed, ladysthumb	-	-	6	-	9
Smartweed, Pennsylvania	-	-	6	-	9
Sowthistle, annual	-	-	6	-	12
Spanishneedles	-	-	6	-	12
Speedwell, purslane	12	-	-	-	-
Sprangletop	6	12	20	-	-
Spurge, prostrate	-	6	12	-	-
Spurge, spotted	-	6	12	-	-
Spurry, umbrella	6	-	-	-	-
Stinkgrass	-	12	-	-	-
Sunflower	12	18	-	-	-
Swinocress	-	5	12	-	-
Teaweed/Prickly sida	-	2	4	-	6
Texas panicum	6	8	12	-	24
Thistle, Russian <sup>5</sup>	-	6	12	-	-
Velvetleaf	-	-	6	-	12
Virginia pepperweed	-	18	-	-	-
Waterhemp	-	-	6	-	12
Wheat <sup>2</sup>	6	12	18	-	-
Wheat,					
(overwintered)	-	6	12	-	18
Wild oats	3	6	18	-	-
Wild proso millet	-	6	12	-	18
Witchgrass	-	12	-	-	-

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Woolly cupgrass	-	6	12	-	-
Yellow rocket	-	12	20	-	-

<sup>1</sup>For control of downy brome in no-till systems, use 16 fluid ounces per acre.

<sup>2</sup>Performance is better if application is made before this weed reaches the boot stage of growth.

<sup>3</sup>Use 16 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 22 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 22 fluid ounces followed by 22 fluid ounces of this product per acre.

<sup>4</sup>Do not treat kochia in the button stage.

<sup>5</sup>Control of Russian thistle may vary based on environmental conditions and spray coverage. Whenever possible, a tank mixture with 2,4-D as described below may improve control.

### 13.1 Annual Weeds—Tank Mixtures with 2,4-D, Dicamba or Tordon™ 22K

8 to 11 fluid ounces of this product plus 0.25 pound of dicamba or 0.5 pound of 2,4-D or 1 to 2 fluid ounces of Tordon 22K per acre will control the following weeds with the maximum height or length indicated: 6 inches—prickly lettuce, mare's tail/horseweed, morning glory, kochia (dicamba only) wild buckwheat (Tordon 22K only); 12 inches—cocklebur, lambsquarters, pigweed, Russian thistle (2,4-D only).

11 fluid ounces of this product plus 0.5 pound of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Ensure that the specific product is registered for application at the desired site. Some crop injury may occur if dicamba or Tordon 22K is applied within 45 days of planting.

**DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.**

### 13.2 Annual Weeds—Hand-Held or High-Volume Equipment

For control of weeds listed in the "ANNUAL WEEDS RATE SECTION", apply a 0.4-percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 0.7-percent solution.

For best results, use a 1.5-percent solution on harder-to-control perennials, such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods that result in less than complete coverage, use a 4-percent solution for annual and perennial weeds and a 4- to 7-percent solution for woody brush and trees.

### 13.3 Annual Weeds—Tank Mixtures with Atrazine for Fallow and Reduced Tillage Systems

For use only in Colorado, Kansas, Nebraska, Oklahoma, Oregon, South Dakota, and Washington. In Oregon and Washington, do not exceed 1 pound of atrazine per acre.

16 to 20 fluid ounces of this product plus 1 to 2 pounds of atrazine per acre will control the following weeds: barnyardgrass (requires 20 fluid ounces for control), downy brome, green foxtail, lambsquarters, prickly lettuce, tansy mustard, pigweed, field sandbur, stinkgrass, Russian thistle, volunteer wheat, witchgrass and kochia (add 0.12 pound of dicamba for control). Ensure that the specific atrazine product is registered for application at the desired site.

## 14.0 PERENNIAL WEEDS RATE SECTION Apply to actively growing perennial weeds.

**NOTE:** If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

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Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage.

Best results are obtained when soil moisture is adequate for active weed growth.

## **PERENNIAL WEEDS RATE TABLE**

**(Alphabetically by Species)**

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
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Alfalfa	1 - 1.5	3 - 10	1.5 %
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Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.

Alligatorweed	3	3 - 20	1 %
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For partial control, apply when most of the plants are in bloom. Repeat applications will be required to achieve control.

Anise (fennel) <sup>1</sup>	-	-	1 - 1.5 %
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Apply as a spray-to-wet treatment.

Bahiagrass <sup>2</sup>	2 - 3.3	3 - 20	1.5 %
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Bentgrass	1	10 - 20	1.5 %
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For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results.

Bermudagrass	2 - 3.3	3 - 20	1.5 %
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For control, apply 3.3 quarts of this product per acre. For partial control, apply 64 fluid ounces per acre. Treat when Bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to achieve control.

Bermudagrass, water (knotgrass)	0.7 - 1	5 - 10	1.5 %
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Apply 32 fluid ounces of this product in 5 to 10 gallons of water per acre. Apply when water Bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

Fall applications only. Apply 22 fluid ounces of this product in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water Bermudagrass that is 12 to 18 inches in length.

This product is not registered in California for use on water Bermudagrass.

Bindweed, field	0.4 - 3.3	3 - 20	1.5 %
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Do not treat field bindweed under drought stress as good soil moisture is necessary for active growth.

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For control, apply 2.5 to 3.3 quarts of this product per acre west of the Mississippi River and 2 to 2.5 quarts east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Also for control, apply 44 fluid ounces of this product plus 0.5 pound of dicamba in 10 to 20 gallons of water per acre. Do not apply by air.

For suppression on irrigated agricultural land, apply 22 to 44 fluid ounces of this product plus 1 pound of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

**In California only**, apply 22 fluid ounces to 3.3 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.

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<b>Bluegrass, Kentucky</b>	<b>0.7 - 1.5</b>	<b>3 - 40</b>	<b>1.5%</b>
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

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<b>Blueweed, Texas</b>	<b>2 - 3.3</b>	<b>3 - 40</b>	<b>1.5%</b>
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Apply 2.5 to 3.3 quarts of this product per acre west of the Mississippi River and 2 to 2.5 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

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<b>Brackenfern</b>	<b>2 - 3</b>	<b>3 - 40</b>	<b>1%</b>
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Apply to fully expanded fronds that are at least 18 inches long.

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<b>Bromegrass, smooth</b>	<b>0.7 - 1.5</b>	<b>3 - 40</b>	<b>1.5%</b>
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

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<b>Bursage, woolly-leaf</b>	<b>-</b>	<b>3 - 20</b>	<b>1.5%</b>
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For control, apply 44 fluid ounces of this product plus ½ pound of dicamba per acre. For partial control, apply 22 fluid ounces of this product plus ½ pound of dicamba per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

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<b>Canarygrass, reed<sup>2</sup></b>	<b>1.5 - 2</b>	<b>3 - 40</b>	<b>1.5%</b>
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44



# I. MAIN LABEL FOR FOOD CROP USES

Cattail <sup>2</sup>	2 - 3.3	3 - 40	1.5%
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Clover; red or white <sup>1</sup>	2 - 3.3	3 - 20	1.5%
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Also for control, apply 11 to 22 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.

Cogongrass	2 - 3.3	10 - 40	1.5%
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Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to achieve control.

Dallisgrass <sup>2</sup>	2 - 3.3	3 - 20	1.5%
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Dandelion <sup>1</sup>	2 - 3.3	3 - 40	1.5%
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Also for control, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre.

Dock, curly <sup>1</sup>	2 - 3.3	3 - 40	1.5%
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Also for control, apply 11 to 22 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.

Dogbane, hemp	3	3 - 40	1.5%
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Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall.

For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

Fescue (except tall) <sup>2</sup>	2 - 3.3	3 - 20	1.5%
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Fescue, tall	0.7 - 2	3 - 40	1.5%
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Apply 64 fluid ounces of this product per acre when most plants have reached boot-to-early seedhead stage of development.

Fall applications only: Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 11 fluid ounces per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.

Guineagrass	1.5 - 2	3 - 40	1%
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Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. In Texas and ridge of Florida, use 44 fluid ounces for control. In the flatwoods region of Florida, 64 fluid ounces is required for control.

Horsenettle <sup>3</sup>	2 - 3.3	3 - 20	1.5%
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Horseradish	3	3 - 40	1.5%
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445

# I. MAIN LABEL FOR FOOD CROP USES

Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

<b>Iceplant<sup>1</sup></b>	-	-	1.5 - 2%
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Thorough coverage is necessary for best control.

<b>Jerusalem artichoke<sup>1</sup></b>	2 - 3.3	3 - 20	1.5%
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<b>Johnsongrass</b>	0.4 - 2	3 - 40	1%
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In annual cropping systems apply 22 to 44 fluid ounces of this product per acre. Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage (no-till) is not practiced, apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using 22 fluid ounces of this product per acre.

For burndown of Johnsongrass, apply 11 fluid ounces of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot treatment (partial control or suppression)—Apply a 0.7-percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.

<b>Kikuyugrass</b>	1.5 - 2	3 - 40	1.5%
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Spray when most kikuyugrass is at least 8 inches in height (3- or 4-leaf stage of growth). Allow 3 or more days after application before tillage.

<b>Knapweed</b>	3	3 - 40	1.5%
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Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

<b>Lantana</b>	-	-	1%
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Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

<b>Lespedeza<sup>1</sup></b>	2 - 3.3	3 - 20	1.5%
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<b>Milkweed, common</b>	2	3 - 40	1.5%
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Apply when most plants have reached the late bud to flower stage of growth.

<b>Muhly, wirestem</b>	0.7 - 1.5	3 - 40	1.5%
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Use 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or non-crop areas. Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.

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# I. MAIN LABEL FOR FOOD CROP USES

Mullein, common <sup>1</sup>	2 - 3.3	3 - 20	1.5%
Napiergrass <sup>2</sup>	2 - 3.3	3 - 20	1.5%
Nightshade, silverleaf	1.5	3 - 10	1.5%

Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.

Nutsedge, purple or yellow	0.4 - 2	3 - 40	1 - 1.5%
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Apply 64 fluid ounces of this product per acre or apply a 1- to 1.5-percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets that have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential applications: 22 to 44 fluid ounces of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3- to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For partial control of existing plants, apply 11 to 44 fluid ounces of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.

Orchardgrass	0.7 - 1.5	3 - 40	1.5%
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Orchardgrass sods going to no-till corn: Apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

Pampasgrass	--	--	1 - 1.5%
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Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

Paragrass <sup>2</sup>	2 - 3.3	3 - 20	1.5%
Phragmites	2 - 3.3	10 - 40	1 - 1.5%

For partial control and best results, treat during late summer or fall when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to achieve control. Visual control symptoms will be slow to develop.

Poison hemlock	--	--	1 - 1.5%
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## 1. MAIN LABEL FOR FOOD CROP USES

For hand held, apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Thorough coverage is necessary for best control.

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<b>Pokeweed, common</b>	<b>1</b>	<b>3 - 40</b>	<b>1.5 %</b>
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Apply to actively growing plants up to 24 inches tall.

<b>Quackgrass</b>	<b>0.7 - 2</b>	<b>3 - 40</b>	<b>1.5 %</b>
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In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 44 fluid ounces of this product. Do not tank mix with residual herbicides when using the 22-fluid-ounce rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.

In pastures, sods or non-crop areas where deep tillage does not follow application: Apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.

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<b>Redvine</b>	<b>0.5 - 1.5</b>	<b>5 - 10</b>	<b>1.5 %</b>
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For suppression, apply 16 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 44 fluid ounces per acre. Apply recommended rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

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<b>Reed, giant</b>	<b>-</b>	<b>-</b>	<b>1.5 %</b>
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Best results are obtained when applications are made in late summer to fall.

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<b>Ryegrass, perennial</b>	<b>0.7 - 2</b>	<b>3 - 40</b>	<b>1 %</b>
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In annual cropping systems apply 22 to 44 fluid ounces of this product per acre. Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage (no-till) is not practiced, apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using 22 fluid ounces of this product per acre.

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<b>Smartweed, swamp<sup>1</sup></b>	<b>2 - 3.3</b>	<b>3 - 40</b>	<b>1.5 %</b>
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Also for control, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.

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<b>Sowthistle, perennial</b>	<b>1.5 - 2</b>	<b>3 - 40</b>	<b>1.5 %</b>
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

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<b>Spurge, leafy</b>	<b>-</b>	<b>3 - 10</b>	<b>1.5 %</b>
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448

## 1. MAIN LABEL FOR FOOD CROP USES

For suppression, apply 11 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.

Starthistle, yellow	1.5	10 - 40	1.5%
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Best results are obtained when applications are made during the rosette, bolting and early flower stages.

Sweet potato, wild	-	-	1.5%
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For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

Thistle, artichoke	-	-	1.5%
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For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

Thistle, Canada	1.5 - 2	3 - 40	1.5%
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression in the spring, apply 22 fluid ounces of this product, or 11 fluid ounces of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

Timothy <sup>2</sup>	1.5 - 2	3 - 40	1.5%
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Torpedograss	2.5 - 3.3	3 - 40	1.5%
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For partial control, apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to achieve control. Fall treatments must be applied before frost.

Trumpet creeper	1.5	5 - 10	1.5%
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For partial control, apply in late September or October, to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Vaseygrass <sup>2</sup>	2 - 3.3	3 - 20	1.5%
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Velvetgrass <sup>2</sup>	2 - 3.3	3 - 20	1.5%
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Wheatgrass, western <sup>2</sup>	1.5 - 2	3 - 40	1.5%
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<sup>1</sup> Apply when most plants have reached the early bud stage of growth.

<sup>2</sup> Apply when most plants have reached the early heading stage of growth.

## 15.0 WOODY BRUSH AND TREES RATE SECTION

409

## I. MAIN LABEL FOR FOOD CROP USES

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Unless otherwise directed, apply broadcast treatments in 3 to 40 gallons of water per acre. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

**WOODY BRUSH AND TREES RATE TABLE**  
(Alphabetically by Species)

Weed Species	Rate (QT/A)	Hand-Held % Solution
Alder	2 - 3	1%
Ash <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Aspen, quaking	1.5 - 2	1%
Bearmat (Bearclover) <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Beech <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Birch	1.5 - 2	1%
Blackberry	2 - 3	1%

Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.7-percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 2 to 2.5 quarts of this product in 10 to 40 gallons of water per acre.

Blackgum	1.5 - 3.3	1 - 1.5%
Bracken	1.5 - 3.3	1 - 1.5%
Broom; French, Scotch	-	1 - 1.5%
Buckwheat, California <sup>1,2</sup>	-	1 - 1.5%
Cascara <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Catsclaw <sup>1</sup>	-	1%
Ceanothus <sup>1</sup>	1.5 - 3.3	1 - 1.5%



# I. MAIN LABEL FOR FOOD CROP USES

Chamise <sup>2</sup>	-	1%
Cherry; bitter, black, pin	1.5 - 2	1%
Coyote brush	-	1 - 1.5%

Apply when at least 50 percent of the new leaves are fully developed.

Dogwood <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Elderberry	1.5 - 2	1%
Elm <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Eucalyptus	-	1.5%

For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage.  
Avoid application to drought-stressed eucalyptus plants.

Florida holly (Brazilian Peppertree) <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Gorse <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Hasardia <sup>1,2</sup>	-	1 - 1.5%
Hawthorn	1.5 - 2	1%
Hazel	1.5 - 2	1%
Hickory <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Honeysuckle	2 - 3	1%
Hornbeam, American <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Kudzu	2.5 - 3.3	1.5%

Repeat applications may be required to achieve control.

Locust, black <sup>1</sup>	1.5 - 3	1 - 1.5%
Madrone resprouts <sup>1</sup>	-	1.5%

Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.

Manzanita <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Maple, red	1.5 - 3	1%

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# I. MAIN LABEL FOR FOOD CROP USES

Apply a 1-percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 44 to 86 fluid ounces of this product per acre.

Maple, sugar	—	1%
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Apply when at least 50 percent of the new leaves are fully developed.

Monkey flower <sup>1,2</sup>	—	1 - 1.5%
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Oak, black, white <sup>1</sup>	1.5 - 3	1 - 1.5%
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Oak, post	2 - 3	1%
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Oak, northern,	—	1%
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Apply when at least 50 percent of the new pin leaves are fully developed

Oak; southern Red	1.5 - 2	1%
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Persimmon <sup>1</sup>	1.5 - 3.3	1 - 1.5%
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Pine	1.5 - 3.3	1 - 1.5%
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Poison ivy/ Poison oak	2.5 - 3.3	1.5%
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Repeat applications may be required to achieve control. Fall treatments must be applied before leaves lose green color.

Poplar, yellow <sup>1</sup>	1.5 - 3.3	1 - 1.5%
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Redbud, Eastern	1.5 - 3.3	1 - 1.5%
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Rose, multiflora	1.5	1%
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Treatments should be made prior to leaf deterioration by leaf-eating insects.

Russian olive <sup>1</sup>	1.5 - 3.3	1 - 1.5%
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Sage, black <sup>2</sup>	—	1%
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Sage, white <sup>1</sup>	1.5 - 3.3	1 - 1.5%
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Sagebrush, California <sup>2</sup>	—	1%
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Salmonberry	1.5 - 2	1%
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Saltcedar	1.5 - 3.3	1 - 1.5%
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# I. MAIN LABEL FOR FOOD CROP USES

Sassafras <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Sourwood <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Sumac; poison, smooth, winged <sup>1</sup>	1.5 - 3	1 - 1.5%
Sweetgum	1.5 - 2	1%
Swordfern <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Tallowtree, Chinese <sup>2</sup>	—	1%
Tan oak resprouts <sup>1</sup>	—	1.5%

Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.

Thimbleberry	1.5 - 2	1%
Tobacco, tree <sup>1</sup>	—	1 - 1.5%
Trumpet creeper	1.5 - 2	1%
Vine maple <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Virginia creeper	1.5 - 3.3	1 - 1.5%
Waxmyrtle, Southern <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Willow	2 - 3	1%

<sup>1</sup>Partial control

<sup>2</sup>Through coverage of foliage is necessary for best results.

## 16.0 LIMIT OF WARRANTY AND LIABILITY

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

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## I. MAIN LABEL FOR FOOD CROP USES

For over-the-top uses on Roundup Ready crops, crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE. PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

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This product is protected by U.S. Patents Nos. 6,365,551 and RE 37,866. Other patents pending. No license granted under any non-U.S. patent(s).

EPA Reg. No. 524-539

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In case of an emergency involving this product,  
Call Collect, day or night, (314) 694-4000.

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ST. LOUIS, MISSOURI, 63167 USA

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## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

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O	ADDITION OF SURFACTANT FOR APPLICATIONS WITH [INSERT BRAND NAME]	07-May-2002	
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## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

	RESISTANT HORSEWEED (MARETAIL, <i>CONYZA CANADENSIS</i> ) IN COTTON, CORN, AND SOYBEANS.		
S	BROADCAST APPLICATIONS IN CHRISTMAS TREE PLANTATIONS	New*	
T	FOR AID IN SUGARCANE RIPENING	New **	
U	FOR WINTER VARIETIES OF ROUNDUP READY CANOLA	New	

\*Approved on EPA Reg. No. 524-445 (Roundup Original Herbicide)

\*\*Approved on EPA Reg. No. 524-350 (Polado L Growth Regulator)

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR [INSERT BRAND NAME] BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using [INSERT BRAND NAME] as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

**[INSERT BRAND NAME HERE]**

Herbicide

EPA Reg. No. 524-539

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

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[INSERT BRAND NAME] is a registered trademark of Monsanto Technology LLC.

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### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for [INSERT BRAND NAME] for essential product performance information.

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[INSERT SPECIFIC DIRECTION FOR USE FROM FOLLOWING SECTIONS HERE]

Read the "Limit of Warranty and Liability" in the label booklet for [INSERT BRAND NAME] before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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**A. FOR USE IN DORMANT ALFALFA**

**RECOMMENDATIONS**

This product will control or suppress many weeds, including quackgrass, downy brome and cheatgrass in dormant alfalfa.

Apply 6 to 8 fluid ounces per acre of this product. Apply in the spring to alfalfa that is dormant. Applications should be made after spring temperatures have warmed enough to encourage resumption of weed growth, but prior to initiation of trifoliate leaf expansion of the alfalfa. Applications made after expansion of the first trifoliate leaf of the alfalfa will cause growth reduction and reduced crop yield.

Do not use ammonium sulfate when spraying dormant alfalfa with [INSERT BRAND NAME].

Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated.

Do not make more than one application per year.

Allow 36 hours after application before grazing livestock or harvesting.

Slight discoloration of the alfalfa may occur, but the alfalfa will regreen and regrow under moist soil conditions as effects of this product wear off.

Application of this product is limited to persons who have attended a Monsanto-approved training program. Application of this product can cause crop injury. Any crop injury is the sole responsibility of the applicator.

**B. FOR THE CONTROL OF ANNUAL WEEDS IN COASTAL BERMUDAGRASS PASTURES PRIOR TO SPRING GROWTH OR IMMEDIATELY AFTER FIRST CUTTING**

**RECOMMENDATIONS**

This product may be applied at 11 fluid ounces per acre to control the weeds listed below and most other winter annual grass and broadleaf weeds in established coastal Bermudagrass pastures.

Annual bluegrass	Oats
Cheat	Ryegrass, Italian
Crabgrass	Sandbur, field
Henbit	Sunflower
Johnsongrass, seedling	Wheat
Little barley	Wild mustard

**TIMING OF APPLICATION**

Applications prior to spring growth: Apply this product in the late winter or early spring but before new coastal Bermudagrass growth begins in the spring. Applications to new growth can damage the Bermudagrass.

Remove domestic livestock from the pasture before making the application. Wait 60 days after making this application before grazing or harvesting the treated area.

Applications following the first cutting: Apply this product after the first Bermudagrass cutting when the Bermudagrass has not yet begun to regrow. Applications made after regrowth has begun can damage the Bermudagrass.

Remove domestic livestock from the pasture before making the application. Wait 28 days after making this application before grazing or harvesting the treated area.

**NOTE: ONLY ONE APPLICATION PER YEAR MAY BE MADE TO ANY ONE FIELD. A SPRING APPLICATION PRIOR TO GROWTH AND AN APPLICATION FOLLOWING THE FIRST CUTTING MAY NOT BE MADE ON THE FIELD DURING THE SAME YEAR.**

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**C. FOR DISTRIBUTION AND USE ONLY WITHIN SOUTH DAKOTA. FOR NON-SELECTIVE CONTROL OF LISTED ANNUAL WEEDS IN SMALL GRAIN CROPPING SYSTEMS**

**RECOMMENDATIONS**

Refer to the [INSERT BRAND NAME] label for rate recommendations and weeds controlled.

For ground applications, use 3 to 5 gallons of water per acre. For aerial applications, use 2 to 3 gallons of water per acre.

**ATTENTION**

**AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.**

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this herbicide can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) that are likely to drift. **AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.**

**NOTE:** To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

Adjust boom height on ground equipment to prevent streaked, overlapped or uneven applications. Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets.

In aerial applications, do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

Ensure uniform application. Use appropriate marking devices when applying herbicides by air.

Avoid spraying when weeds are subject to moisture stress, when dust is on foliage, or when straw canopy covers the weeds.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residue of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF PART. LANDING GEAR IS MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

**D. TANK MIX WITH Aim® FOR IMPROVED SYMPTOMS IN PRE-PLANT APPLICATIONS IN CORN, SOYBEANS OR WHEAT**

**RECOMMENDATIONS**

This tank-mixture will significantly enhance the speed of symptomatology appearance on certain weeds when applied as a pre-plant treatment prior to corn, Roundup Ready corn, soybeans, Roundup Ready soybeans, or wheat. This mixture may be applied prior to planting or emergence of labeled crops. This mixture will not provide residual control of weeds that are un-emerged at the time of treatment.

Combine [INSERT BRAND NAME] (22 fluid ounces of product per acre) and Aim (0.144 ounce per acre) in the spray tank in 10 to 20 gallons of water per acre. For best results, make applications to actively growing weeds. Ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of water may be added. The addition of 2,4-D or dicamba is not recommended.

**SPECIFIC MIXING RECOMMENDATIONS**

**Option 1**

1. Fill the spray tank one-half full with water and start the agitation.
2. Add Aim at 0.144 ounce per acre and mix thoroughly.
3. If desired add ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of spray.

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## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

4. Add [INSERT BRAND NAME] at 22 fluid ounces per acre and finish filling the spray tank with water.

### Option 2

1. Fill the spray tank one-half full with water and start the agitation.
2. If desired add ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of spray.
3. Add [INSERT BRAND NAME] at 22 fluid ounces per acre.
4. Prepare a slurry of Aim with water and add to the spray tank.

Read and follow the Aim label for additional application instructions and precautions.

Aim is a trademark of FMC Corporation.

## E. TANK MIX WITH RESOURCE® FOR IMPROVED SYMPTOMS IN PRE-PLANT APPLICATIONS IN CORN OR SOYBEANS

### RECOMMENDATIONS

This tank-mixture will significantly enhance the speed of symptomology appearance on certain weeds when applied as a pre-plant treatment prior to corn or soybeans. This mixture may be applied prior to planting or emergence of labeled crops. This mixture will not provide residual control of weeds that are un-emerged at the time of treatment.

Combine [INSERT BRAND NAME] (22 fluid ounces of product per acre) and Resource® (2.08 fluid ounces per acre) in the spray tank in 10 to 20 gallons of water per acre. For best results, make applications to actively growing weeds. Ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of water may be added. The addition of 2,4-D or dicamba is not recommended.

### SPECIFIC MIXING RECOMMENDATIONS

#### Option 1

1. Fill the spray tank one-half full with water and start the agitation.
2. Add Resource at 2.08 fluid ounces per acre and mix thoroughly.
3. If desired add ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of spray.
4. Add [INSERT BRAND NAME] at 22 fluid ounces per acre and finish filling the spray tank with water.

#### Option 2

1. Fill the spray tank one-half full with water and start the agitation.
2. If desired add ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of spray.
3. Add [INSERT BRAND NAME] at 22 fluid ounces per acre.
4. Add Resource at 2.08 fluid ounces per acre to the spray tank.

Read and follow the Resource label for additional application instructions and precautions.

Resource is a trademark of Valent USA Corporation.

## F. FOR AERIAL APPLICATION IN CALIFORNIA ONLY

Aerial applications of this product are allowed in the following situations:

1. In fallow and reduced tillage systems prior to the emergence or transplanting of labeled crops.
2. In alfalfa and pasture renovation applications.
3. Over-the-top applications in Roundup Ready corn and cotton. Refer to further label instructions for Roundup Ready corn and Roundup Ready cotton for specific application instructions for over-the-top applications in these crops.
4. Preharvest in alfalfa, corn, cotton, wheat, Roundup Ready corn and Roundup Ready cotton. Refer further label instructions for [INSERT BRAND NAME] for Roundup Ready corn and Roundup Ready cotton for specific preharvest application instructions for each individual crop.

Do not plant subsequent crops other than those listed in the label booklet for 30 days following application.

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## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

When applied as recommended under the conditions described, this product controls annual and perennial weeds listed in the label booklet.

When tank mixing this product with 2,4-D for aerial applications, only 2,4-D amine formulations may be used. This tank mixture may be used for fallow and reduced tillage systems and alfalfa and pasture renovation applications only.

DO NOT EXCEED THE FOLLOWING MAXIMUM RATES WHEN MAKING APPLICATIONS BY AIR:

22 fluid ounces per acre	44 fluid ounces per acre
	Alfalfa
Corn	
Roundup Ready® Corn	
	Cotton
	Roundup Ready® Cotton
	Fallow
	Reduced tillage systems
	Pastures
Wheat	

### Aerial Equipment

Use the recommended rates of this product in 3 to 15 gallons of water per acre. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

**AVOID DRIFT—DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops.

1. Do not apply within 100 feet of all desirable vegetation or crop(s).
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets. Do not angle nozzles forward into the air-stream and do not increase spray volume by increasing nozzle pressure. Drift reduction additives may be used. When a drift reduction additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

**Ensure uniform application—**To avoid streaking, uneven, or over-lapped application, use appropriate marking devices. Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

**G. FOR AERIAL APPLICATION IN FRESNO COUNTY, CALIFORNIA ONLY (From February 15 through March 31 Only)**

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## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

### Applicable Area

This supplement only applies to the area contained inside the following boundaries within Fresno County, California.

North: Fresno County line  
South: Fresno County line  
East: State Highway 99  
West: Fresno County line

### General Information

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

Observe the following directions to minimize off-site movement during aerial application of this product. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor and aerial applicator.

### Written Recommendations

A written recommendation **MUST** be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. This written recommendation **MUST** state the proximity of surrounding crops, and that conditions of each manufacturer's product label and this label have been satisfied.

### Aerial Applicator Training and Equipment

Aerial application of this product is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved fly-ins constitutes such documentation, or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

**Applications at Night**—Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

To report known or suspected misuse of  
this product, call 1-800-332-3111.

For additional information on the proper aerial application of this product, call 916-784-1718.

**Note:** For aerial application from April 1 through February 14, refer to the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" supplemental label.

## H. FOR AERIAL APPLICATION IN ARKANSAS ONLY

### USE DIRECTIONS

AVOID DRIFT. DO NOT APPLY INTO STILL AIR WHERE THERE IS A TEMPERATURE INVERSION LAYER LOW ENOUGH FOR FINE SPRAY PARTICLES TO BECOME SUSPENDED AND MOVE OUTSIDE THE TARGET AREA WHEN THE INVERSION LAYER MOVES. DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION THAT FAVORS DRIFT. DRIFT IS LIKELY TO CAUSE DAMAGE TO ANY VEGETATION CONTACTED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the recommended rate of this product in 3 to 15 gallons of water per acre.

Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are recommended.

Applications should typically be made with the nozzle release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft safety.

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## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

The distance of the outermost nozzles on the boom must not exceed 75 percent of the length of the wingspan or rotor. In many cases, reducing this distance to 65 percent of the length of the wingspan or rotor will improve drift control without affecting the swath width.

Nozzles must always discharge backward parallel with the airstream and never discharge downwards more than 45 degrees on fixed wing aircraft or forward of the prevailing airflow on rotary winged aircraft. Avoid the use of nozzles with wide-angle discharge.

Do not apply this product when winds are in excess of 10 miles per hour.

Do not apply when there is a low-level inversion where fine spray particles could be suspended in still air and move outside the target area when the inversion layer moves. These conditions may occur when wind speeds are less than 2 miles per hour.

Use the following guidelines when applications are made near crops or other desirable vegetation:

1. Do not apply within 100 feet of any desirable vegetation or crops.
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crops, do not apply within 500 feet upwind of the desirable vegetation or crops.
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.

### I. USE ONLY FOR SEED PRODUCTION OF ALFALFA WITH THE ROUNDUP READY® GENE

**NOTE:** THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT ALFALFA IN PRODUCTION FIELDS OF ALFALFA CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH OF ALFALFA WILL RESULT IF ALFALFA VARIETIES THAT DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.

#### USE RECOMMENDATIONS

This product will control non-glyphosate tolerant alfalfa in seed production fields of alfalfa containing the Roundup Ready gene. Apply up to 44 fluid ounces of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Subsequent applications of up to 44 fluid ounces per acre each may be applied, if needed to control non-glyphosate tolerant alfalfa plants.

DO NOT EXCEED A MAXIMUM RATE OF 5.3 QUARTS OF THIS PRODUCT PER ACRE PER SEASON.

Application timing—This product can be applied to Roundup Ready alfalfa from emergence to harvest.

Treated alfalfa or the resulting seed may not be used for food or feed. Do not feed or graze treated alfalfa. Do not process treated alfalfa or resulting seed for food or feed.

### J. USE ONLY FOR SEED PRODUCTION OF LETTUCE WITH THE ROUNDUP READY® GENE

**NOTE:** THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT LETTUCE IN PRODUCTION FIELDS OF LETTUCE CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH OF LETTUCE WILL RESULT IF LETTUCE VARIETIES THAT DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.

#### USE RECOMMENDATIONS

This product will control non-glyphosate tolerant lettuce in seed production fields of lettuce containing the Roundup Ready gene. Apply up to 44 fluid ounces of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. A second application up to 44 fluid ounces per acre may be applied, if needed to control non-glyphosate tolerant lettuce plants.

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## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

DO NOT EXCEED A MAXIMUM RATE OF 2.5 QUARTS OF THIS PRODUCT PER ACRE PER SEASON.

Application timing—This product can be applied to Roundup Ready lettuce from emergence to harvest.

Treated lettuce may not be used for food or feed. Do not feed or graze treated lettuce. Do not process treated lettuce for food or feed.

### K. USE ONLY FOR SEED PRODUCTION OF RICE WITH THE ROUNDUP READY® GENE

**NOTE:** THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT RICE IN PRODUCTION FIELDS OF RICE CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH WILL RESULT IF RICE VARIETIES THAT DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.

#### USE RECOMMENDATIONS

This product will control non-glyphosate tolerant rice in seed production fields of rice containing the Roundup Ready gene. Apply up to 44 fluid ounces of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. A second application up to 44 fluid ounces per acre may be applied, if needed to control non-glyphosate tolerant rice plants.

DO NOT EXCEED A MAXIMUM RATE OF 2.5 QUARTS OF THIS PRODUCT PER ACRE PER SEASON.

Application timing—This product can be applied to Roundup Ready rice from emergence to harvest.

Treated rice may not be used for food or feed. Do not feed or graze treated rice. Do not process treated rice for food or feed.

### L. FOR USE ONLY FOR SEED PRODUCTION OF WHEAT WITH THE ROUNDUP READY® GENE

**NOTE:** THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT WHEAT IN PRODUCTION FIELDS OF WHEAT CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH WILL RESULT IF WHEAT VARIETIES THAT DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.

#### USE RECOMMENDATIONS

This product will control non-glyphosate tolerant wheat in seed production fields of wheat containing the Roundup Ready gene. Apply up to 22 fluid ounces of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. A second application up to 22 fluid ounces per acre may be applied, if needed to control non-glyphosate tolerant wheat plants.

DO NOT EXCEED A MAXIMUM RATE OF 44 FLUID OUNCES OF THIS PRODUCT PER ACRE PER SEASON.

Application timing—This product can be applied to Roundup Ready wheat from emergence to harvest.

Treated wheat may not be used for food or feed. Do not feed or graze treated wheat. Do not process treated wheat for food or feed.

### M. FOR CONTROLLING BARNYARDGRASS (*ECHINOCHLOA CRUS-GALLI*) IN RICE USING RENOVATION TREATMENTS IN CALIFORNIA ONLY

#### RECOMMENDATIONS

##### Renovation Treatment

**USE INSTRUCTIONS:** This product may be applied as a renovation treatment in rice crops to control barnyardgrass infestations using ground broadcast spray or hand-held equipment. Renovation is defined as

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## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

herbicide treatment that will produce crop and weed destruction in an entire field or contiguous area treated within a field. Follow the application methods and recommended treatment rates in the label booklet for [INSERT BRAND NAME] herbicide.

**PRECAUTIONS, RESTRICTIONS:** The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason. The rice straw and stubble from the treated area, including a 25-foot buffer zone on all sides, shall not be used for grazing, animal bedding or any feed purposes. No Aerial applications are permitted for rice renovation using this supplemental label.

### N. FOR NEW COTTON LINES WITH THE ROUNDUP READY® GENE—IN-CROP APPLICATIONS

#### General Information

ATTENTION: MONSANTO RECOMMENDS THIS PRODUCT FOR USE ONLY OVER-THE-TOP OF OR DIRECTED ONTO IMPROVED COTTON VARIETIES THAT ARE DESIGNATED AS COTTON WITH THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH OF COTTON WILL RESULT IF ANY COTTON VARIETIES NOT PROPERLY DESIGNATED AS HAVING THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT. AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, OR ANY DESIRABLE PLANTS AND TREES, OTHER THAN CROPS WITH THE ROUNDUP READY GENE, SINCE SEVERE INJURY OR DESTRUCTION WILL RESULT.

ROUNDUP READY COTTON VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION, "ROUNDUP READY", INDICATES THE COTTON VARIETY CONTAINS A PATENTED PROPRIETARY TRAIT.

#### Application Instructions

This product will control many troublesome weeds with over-the-top, post-directed, hooded sprayer, or preharvest applications in Roundup Ready cotton. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the [INSERT BRAND NAME] label booklet for more information.

##### Maximum Allowable Yearly Rates

Combined total per year for all applications	5.3 quarts per acre
Preplant, Preemergence applications	3.3 quarts per acre
Total over-the-top applications from cracking to layby	56 fluid ounces per acre
Total precision post-directed or hooded applications through layby	44 fluid ounces per acre
Maximum preharvest application rate	44 fluid ounces per acre

**NOTE:** Always plant into a weed free seedbed. In no-till and stale seedbed systems, always burn down existing weeds before cotton emerges. Apply a preplant burndown treatment of 11 to 32 fluid ounces per acre of this product.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product to Roundup Ready cotton. Follow the cleaning procedures specified on the label of the product(s) previously used. Cotton is very sensitive to many herbicides at extremely low concentrations and care should be taken to thoroughly clean all equipment prior to use.

**There are no rotational crop restrictions following applications of this product.**

**Over-the-top applications:** Up to 56 fluid ounces per sprayed acre of this product may be applied by aerial or ground broadcast application equipment postemergence to Roundup Ready cotton from the ground cracking stage until layby. The "ANNUAL AND PERENNIAL WEEDS RATE SECTION" in the label booklet for [INSERT BRAND NAME] should be used to determine application rate. Any single over-the-top application should not exceed 44 fluid ounces per sprayed acre. Sequential applications of this product must be at least 7 days apart.

## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

With ground broadcast equipment: apply this product in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use flat-fan nozzles. Check for even distribution of spray droplets.

For aerial applications, apply this product in 3 to 15 gallons of water per acre. DO NOT EXCEED A MAXIMUM RATE OF 22 FLUID OUNCES PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR. AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE. Do not apply during low-level inversion conditions, when winds are gusty or under any other conditions that favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

Post-directed or hooded applications: In addition to the over-the-top applications, up to 44 fluid ounces per sprayed acre may be applied as a post-directed or hooded application to Roundup Ready cotton through layby. These application methods may be preferred when there is a need to direct the spray onto weeds that are growing under the crop canopy. Equipment should be used which directs the spray into the lower crop canopy so that weeds in the row are covered. For best results, make applications while weeds are small (less than 3 inches). Sequential in-crop applications must be at least 7 days apart from any other in-crop application of this product.

**ATTENTION: USE OF [INSERT BRAND NAME] IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON, HOWEVER, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN UNANTICIPATED RESULTS INCLUDING YIELD LOSS.**

**Weeds controlled.** For specific rates of application and instructions for control of various annual and perennial weeds, refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" of the label booklet. [INSERT BRAND NAME] applied at 22 to 44 fluid ounces per acre will control or suppress the growth of the following perennial weeds and reduce crop competition: yellow and purple nutsedge, rhizome johnsongrass, common Bermudagrass, silverleaf nightshade, trumpet creeper, and redvine. Fall preharvest applications may be required for control of these perennial weeds.

Tank mixtures with other herbicides may result in reduced weed control, or may cause crop injury and are not recommended for applications where the spray contacts the cotton plant.

Some weeds with multiple germination times or suppressed (stunted) weeds may require sequential applications of this product for control.

Preharvest applications: This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton any time after layby up to 7 days prior to harvest. This product may be tank mixed with DEF™ 6, Folex™, Ginstar™, or Prep™ to enhance cotton leaf drop. Allow a minimum of 7 days between final application and harvest. No more than 44 fluid ounces of this product per acre may be applied preharvest (between layby and seven days prior to harvest). Do not apply more than 22 fluid ounces of this product per acre by air. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton. Do not apply [INSERT BRAND NAME] preharvest to cotton grown for seed.

Precautions/Restrictions: The combined total application from crop emergence until harvest must not exceed 5.3 quarts per acre. Allow a minimum of 7 days between final application and harvest. Tank mixtures with other herbicides may result in reduced weed control, or may cause crop injury and are not recommended for applications where the spray contacts the cotton plant. Do not apply [INSERT BRAND NAME] preharvest to cotton grown for seed.

Folex, Ginstar, and Prep are trademarks of Aventis CropSciences.

DEF is a trademark of Bayer Crop Protection and

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**O. ADDITION OF SURFACTANT FOR APPLICATIONS WITH [INSERT BRAND NAME]**

Although not generally required, surfactant may be added to spray solutions at water carrier volumes above 30 gallons per acre or application rates below 16 fluid ounces of this product per acre.

Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, a rate of 0.25 to 0.5 percent surfactant concentration (1 to 2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient is recommended. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

When applied as recommended under the conditions described, this product controls annual and perennial weeds listed in the label booklet.

**DO NOT** add buffering agents or pH adjusting agents to the spray solution when [INSERT BRAND NAME] is the only pesticide used.

**P. ADDITION OF SURFACTANT FOR APPLICATIONS WITH [INSERT BRAND NAME] (Alternate version)**

The addition of surfactant to spray solutions of this product is generally not required for the control of annual and perennial weeds listed in the label booklet. Under certain circumstances such as when water carrier volumes are above 30 gallons per acre or the product use rate is less than 16 fluid ounces per acre, the addition of additional surfactant may improve weed control.

When surfactant is added, only nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, a rate of 0.25 to 0.50 percent surfactant concentration (1 to 2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 0.50 to 1 percent surfactant concentration (2 to 4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient is recommended. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

**Q. FOR USE ON ROUNDUP READY CANOLA AT HIGHER APPLICATION RATES**

TYPES OF APPLICATIONS: Preplant, Preemergence, At-Planting, Postemergence.

**DO NOT USE THIS PRODUCT ON ROUNDUP READY CANOLA PLANTED IN THE FOLLOWING STATES: ALABAMA, DELAWARE, FLORIDA, GEORGIA, KENTUCKY, MARYLAND, NEW JERSEY, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, VIRGINIA AND WEST VIRGINIA.**

**Maximum Allowable Combined Application Quantities Per Season**

Preplant, At-Planting, Preemergence applications	44 fluid ounces per acre
Total in-crop application from emergence to 6-leaf stage	44 fluid ounces per acre

**Preplant, Preemergence, At-Planting**

USE INSTRUCTIONS: This product may be applied before, during or after planting canola.

**Postemergence**

USE INSTRUCTIONS: This product may be applied postemergence to Roundup Ready canola from emergence through the 6-leaf stage of development. Applications made during bolting or flowering may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

Weeds Controlled: For specific rates of application and instructions, refer to the "ANNUAL" and "PERENNIAL WEEDS RATE SECTIONS" in this label.

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## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

**Single Application**—Apply 11 to 22 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications that may result in temporary yellowing, delayed flowering, and or growth reduction. Similar injury may result when applications of more than 11 fluid ounces per acre are applied after the 4-leaf stage.

**Sequential Application**—Apply 22 fluid ounces per acre to 1- to 3-leaf canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential applications are recommended for early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass or when controlling weeds with multiple application times.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. No more than two over-the-top broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total in-crop application should not exceed 44 fluid ounces per acre. Allow a minimum of 60 days between last application and canola harvest.

### R. FOR CONTROL AND MANAGEMENT OF GLYPHOSATE RESISTANT HORSEWEED (MARESTAIL, *CONYZA CANADENSIS*) IN COTTON, CORN, AND SOYBEANS.

For ground applications, use 10 to 20 gallons of water per acre. For aerial applications, use 3 to 15 gallons of water per acre. **For tank-mix recommendations, read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used.**

#### Cotton

##### Preplant:

For control of horseweed, apply this product (22 fluid ounces per acre) in a tank-mix with Clarity™ (8 fluid ounces per acre). This application must be made 21 to 35 days before planting and before horseweed reaches 6 inches in height. In order to avoid crop injury, a minimum interval of 21 days during which there is at least 1 inch of cumulative rainfall must be observed between Clarity application and planting of cotton.

##### Post-directed (Roundup Ready Cotton varieties only):

Management of early season weed competition and the development of a crop height differential between cotton and the horseweed is often achieved by a combination of preplant burndown and post emergent over-the-top and/or directed applications of this product. These measures enhance the development of a height differential that is necessary to successfully make post-directed treatments. In-crop post-directed applications of MSMA (2 pounds active ingredient per acre) tank-mixed with diuron (0.5 to 0.75 pounds active ingredient per acre) should be made when the temperature is 80°F or higher.

#### Soybeans

##### Preplant:

Apply a tank mixture of this product (22 fluid ounces per acre) with 2,4-D (0.5 pounds a.i. per acre) before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting. For areas where 2,4-D cannot be applied due to application restrictions or proximity to a sensitive crop, contact your local retailer and Monsanto representative.

##### In-crop (Roundup Ready Soybean varieties only):

It is strongly encouraged that horseweed should be controlled prior to planting using recommended preplant burndown treatments. In-crop Roundup Ready soybeans, apply a tank mixture of this product (22 fluid ounces per acre) with Amplify™ (0.3 ounces per acre). This treatment should be used as a salvage treatment only for a horseweed infestation that was not controlled preplant. Application should be made between full emergence of the first trifoliate leaf and 50 percent flowering stage of soybeans. At the time of treatment, horseweed should not exceed 6 inches in height.

#### Corn

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## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

### **Preplant, At-Planting, Preemergence:**

Apply a tank mixture of this product (22 fluid ounces per acre) plus 2,4-D (0.5 pounds a.i. of per acre) before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting.

Atrazine (1 to 2 pounds active ingredient per acre) may be included in the tank-mixture to provide residual control. Refer to the atrazine product label for specific use instructions.

### **In-crop (Roundup Ready Corn hybrids only):**

In-crop Roundup Ready corn, apply a tank-mixture of this product (22 fluid ounces per acre) plus Clarity (8 to 16 fluid ounces per acre) or 2,4-D (0.5 to 1.0 pounds a.i. per acre). Apply between corn emergence and the 5-leaf stage of growth (approximately 8 inches tall).

### **ATTENTION**

**AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.**

Clarity is a trademark of BASF.

## **S. BROADCAST APPLICATIONS IN CHRISTMAS TREE PLANTATIONS.**

**NOTE: IF IMPROPERLY APPLIED, THIS PRODUCT HAS THE POTENTIAL TO CAUSE SEVERE CHRISTMAS TREE INJURY. FOLLOW ALL LABELED DIRECTIONS.**

This product may be applied as a broadcast spray over established Christmas trees. Ensure that adequate buffers are maintained to prevent drift onto nearby desirable crops or vegetation. Read the entire "APPLICATION EQUIPMENT AND TECHNIQUES" section of the [INSERT BRAND NAME] label booklet for additional application precautions.

This application is approved for the following Christmas tree species:

Douglas fir	( <i>Pseudotsuga menziesii</i> )
Fir species	( <i>Abies</i> spp.)
Spruce species	( <i>Picea</i> spp.)

Applications may be made only after trees have completed at least a full growing season since planting or transplanting. Applications should not be made within 1 full year prior to tree harvest.

Applications may only be made in the fall after the formation of final conifer resting buds. Final resting buds must be fully hardened and in the dormant stage. Applications made at any other time may result in unacceptable Christmas tree injury.

Avoid spray pattern overlap, as injury may occur.

Apply 22 fluid ounces of this product per acre in 5 to 30 gallons of water per acre.

**NOTE: DO NOT ADD SURFACTANTS, ADDITIVES CONTAINING SURFACTANTS, OR ANY OTHER ADDITIVES TO THIS PRODUCT OR SEVERE CHRISTMAS TREE INJURY MAY RESULT.**

This product may be used at rates from 22 to 44 fluid ounces per acre in some areas. Consult your local Monsanto representative or Roundup supplier for specific recommendations if you require rates greater than 22 fluid ounces per acre.

Drift control additives may increase Christmas tree injury and their use is not recommended.

The use of other herbicides tank mixed with this product is not recommended since severe Christmas tree injury may result.

## **T. FOR AID IN SUGARCANE RIPENING**

### **GENERAL INFORMATION**

This product is a foliar-applied plant growth regulator to hasten ripening and increase the level of sucrose in sugarcane. It is effective in both low and high-tonnage sugarcane.

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## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

When applied as directed under the conditions described, this product will hasten ripening and extend the period of high sucrose level in sugarcane.

As a result of leaf desiccation, improved trash burn can be expected.

Most of the sucrose increase is concentrated in the top nodes of the treated cane stalk. In order to recover the maximum sugar where topping is practiced during harvest, top at the base of the fourth leaf.

Prior to application, consult your state sugarcane authority or local Monsanto representative regarding the degree of sucrose response anticipated from the variety of sugarcane to be treated. Do not plant subsequent crops in treated fields other than the following for 30 days after application: alfalfa or other forage legumes, beans (all types), corn (all types), cotton, melons (all types), pasture grasses, peanuts, potatoes (Irish or sweet), sorghum (milo), soybeans, squash (all types) or wheat.

**PRECAUTIONS, RESTRICTIONS:** Application of this product may initiate development of shooting eyes. This product may not increase the sucrose content of sugarcane under conditions of good natural ripening. Within 2 to 3 weeks after application, this product may produce a slight yellowing to pronounced browning and drying of leaves, and a shortening of upper internodes. Spindle death may occur.

Rainfall within 6 hours after application may reduce effectiveness.

Application is not recommended for sugarcane grown for seed, as a reduction in germination or vigor may occur.

Do not feed or graze treated sugarcane forage following application.

Do not apply for enhanced ripening to any crops other than sugarcane. Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

### **APPLICATION RATES:**

Use the following application rates and timing instructions according to the State in which the sugarcane is grown.

**NOTE:** Use the higher rate within the recommended range when treating sugarcane under adverse ripening conditions or when less responsive varieties are to be treated.

**FLORIDA**—Apply 5 to 12 fluid ounces of this product per acre 3 to 5 weeks before harvest of LAST RATOON CANE ONLY.

**HAWAII**—Apply 9 to 21 fluid ounces of this product per acre 4 to 10 weeks before harvest.

**LOUISIANA**—Apply 4 to 12 fluid ounces of this product per acre 3 to 7 weeks before harvest of RATOON CANE ONLY.

**PUERTO RICO**—Apply 5 fluid ounces of this product per acre 3 to 5 weeks before harvest of RATOON CANE ONLY.

**TEXAS**—Apply 5 to 12 fluid ounces of this product per acre 3 to 5 weeks before harvest of RATOON CANE ONLY.

## U. FOR WINTER VARIETIES OF ROUNDUP READY CANOLA

This product will control many troublesome emerged weeds when applied preplant, preemergence and/or with over-the-top applications in Roundup Ready winter canola. Allow a minimum of 60 days between last application and canola harvest.

### Maximum Allowable Combined Application Quantities Per Season

Preplant and preemergence applications 44 fluid ounces/acre

Total in-crop application from  
emergence to 6-leaf stage or prior to  
bolting in the spring 22 fluid ounces/acre

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## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

### Preplant, Preemergence, At-Planting

USE INSTRUCTIONS: This product may be applied by aerial or ground application equipment before, during or after planting canola. The maximum combined application rate from all preplant and pre-emergent applications should not exceed 44 fluid ounces per acre per season.

Roundup Ready Winter Canola is defined as those Roundup Ready canola varieties that are seeded in the fall and harvested the following spring or summer. Winter canola varieties are intended to enter a cold period dormancy in the winter.

### Postemergence

USE INSTRUCTIONS: This product may be applied by aerial or ground application equipment postemergence to Roundup Ready winter canola varieties from emergence to the 6-leaf stage in the fall and prior to bolting in the spring. Applications made during or after bolting may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds. No waiting period is required between application and open grazing of livestock. Allow a minimum of 60 days between last application and harvest of canola grain.

Single Application—Apply 11 to 16 fluid ounces per acre in the fall and no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications which may result in temporary yellowing, delayed flowering, and or growth reduction.

Sequential Applications—Apply 11 fluid ounces per acre to 1- to 3-leaf canola in the fall, followed by a sequential application at a minimum interval of 10 days, but before bolting in the spring. Sequential applications are recommended for early emerging annual weeds and winter emerging weeds such as downey brome, jointed goatgrass and ryegrass.

This product will control or suppress, most perennial weeds. For some perennial weeds, sequential applications may be required to eliminate crop competition throughout the growing season.

PRECAUTIONS, RESTRICTIONS: No more than two over-the-top broadcast applications may be made from crop emergence up to the onset of bolting and the total in-crop application must not exceed 22 fluid ounces per acre. No waiting period is required between application and open grazing of livestock. Allow a minimum of 60 days between last application and harvest of canola grain.

### III. MAIN LABEL FOR INDUSTRIAL, TURF, ORNAMENTAL USES

[INSERT BRAND NAME]

The complete broad-spectrum postemergence professional herbicide for industrial, turf and ornamental weed control.

#### Complete Directions for Use

EPA Reg. No. 524-539

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION IS LIKELY TO RESULT.

Read the entire label before using this product.

Use only according to label instructions.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling.

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

Refillable Container Label Statement:

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. IT IS INTENDED THAT REPACKAGING BE ONLY IN ACCORDANCE WITH A MONSANTO REPACKAGING OR TOLL REPACKAGING AGREEMENT.

Non-Refillable Container Label Statement:

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING

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##### 1.0 INGREDIENTS

###### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its potassium salt..... 48.7%

OTHER INGREDIENTS:..... 51.3%

100.0%

\*Contains 660 grams per liter or 5.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its potassium salt. Equivalent to 540 grams per liter or 4.5 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patents No. 6,365,551 and RE 37,866. Other patents pending. No license granted under any non-U.S. patent(s).

##### 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE,  
1-800-332-3111.

2. IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, OR FOR MEDICAL ASSISTANCE,  
CALL COLLECT, DAY OR NIGHT

(314)-694-4000.

##### 3.0 PRECAUTIONARY STATEMENTS

###### 3.1 Hazards to Humans and Domestic Animals

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### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Keep out of reach of children.

## CAUTION!

CAUSES MODERATE EYE IRRITATION.

Avoid contact with eyes, skin, or clothing.

**FIRST AID:** Call a poison control center or doctor for treatment advice.

**IF IN EYES**

- Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.
- Remove contact lenses if present after the first 5 minutes then continue rinsing eye.

**IF ON SKIN**

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 - 20 minutes.

- Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
- You may also contact (314) 694-4000, collect day or night, for emergency medical treatment information.

This product is identified as **{INSERT BRAND NAME}**, EPA Registration No. 524-539.

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

#### Personal Protective Equipment (PPE)

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistance category selection chart.

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

#### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### 3.2 Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

#### 3.3 Physical or Chemical Hazards

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### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

#### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear: coveralls, shoes plus socks and chemical resistant gloves made of any waterproof material.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried.

#### 4.0 STORAGE AND DISPOSAL

**PESTICIDE STORAGE:** Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

See container label for additional PESTICIDE DISPOSAL instructions.

#### [ALTERNATE CONTAINER LABEL STORAGE AND DISPOSAL STATEMENTS BY CONTAINER TYPE] [FOR PLASTIC ONE-WAY CONTAINERS & BOTTLES]

Do not reuse container. Triple rinse container, then puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### [FOR ONE-WAY DRUMS]

Do not reuse container. Return container per the Monsanto container return program. If not returned, triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

#### [FOR METAL CONTAINERS (non-aerosol)]

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

#### [FOR REFILLABLE PORTABLE (MINI-BULK) CONTAINERS]

This container must only be refilled with pesticide product. **Do not reuse this container for any other purpose.**

Final disposal must be in compliance with state and local regulations. If not refilled, returned, or recycled, triple rinse or pressure rinse, puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Do not transport this container if it is damaged or leaking. If the container is damaged, leaking or obsolete, or to obtain information about recycling portable refillable containers, contact Monsanto Company at 1-800-ROUNDUP (1-800-768-6387).

**Users:** When the container is empty, replace the cap and seal all openings that have been made during usage, and return the container to the point of purchase, or to an alternate location designated by the manufacturer at the time of purchase of this product. If not returned, triple rinse or pressure rinse the empty container and offer it for recycling if available.

**Refillers:** Do not reuse this mini-bulk container except for refill in accordance with a valid Monsanto Repackaging or Toll Repackaging Agreement. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting.

#### [FOR REFILLABLE STATIONARY BULK CONTAINERS]

This container must only be refilled with pesticide product. **Do not reuse this container for any other purpose.**

Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices.

Final disposal must be in compliance with state and local regulations. If not refilled, triple rinse or pressure rinse container and offer for recycling or reconditioning if possible. If burned, stay out of smoke.

### 5.0 GENERAL INFORMATION

#### (How This Product Works)

**Product Description:** This product is a postemergent, systemic herbicide with no soil residual activity. It gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid containing surfactant.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

**Mode of Action in Plants:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to formation of specific amino acids.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut, and have not been allowed to regrow to the recommended stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or rootstocks of perennials will not be affected by the herbicide and will continue to grow.

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

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When this label recommends a tank mixture with a generic active ingredient such as diuron, atrazine, 2,4-D, or dicamba, the user is responsible for ensuring that the mixture product's label allows the specific application.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this label. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

**Annual Maximum Use Rate:** The combined total of all treatments must not exceed 7 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rates.

#### ATTENTION

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) that are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

**NOTE:** Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

#### 6.0 MIXING

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

**NOTE:** REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

##### 6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

##### 6.2 Tank Mixing Procedure

When tank mixing, read and carefully observe label directions, cautionary statements and all information on the labels of all products used. Add the tank-mix product to the tank as directed by the label. Maintain agitation and add the recommended amount of this product.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation may be required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

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Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance. Ensure that the specific tank mixture product is registered for application at the desired site.

Refer to the "TANK MIXING" section of "GENERAL INFORMATION" for additional precautions.

#### 6.3 Mixing for Hand-Held Sprayers

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

##### Spray Solution

Desired Volume	Amount of [INSERT BRAND NAME]					
	0.4%	0.7%	1%	1.5%	4%	7%
1 gal	0.5 oz	1 oz	1.3 oz	2 oz	5 oz	9 oz
25 gal	0.8 pt	0.7 qt	1 qt	1.5 qt	4 qt	7 qt
100 gal	1.6 qt	2.8 qt	1 gal	1.5 gal	4 gal	7 gal

2 tablespoons = 1 fluid ounce

For use in backpack, knapsack or pump-up sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

#### 6.4 Colorants or Dyes

Agriculturally approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilution. Use colorants or dyes according to the manufacturer's recommendations.

### 7.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

#### SPRAY DRIFT MANAGEMENT

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

#### AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

#### Importance of droplet size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift.

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potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the "Wind", "Temperature and Humidity", and "Temperature Inversion" sections of this label).

#### Controlling droplet size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom Length:** For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application Height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

#### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller droplets, etc.).

#### Wind

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 miles per hour due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

#### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sunsets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### Sensitive Areas

This product should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

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#### 7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

This product plus, dicamba tank mixtures may not be applied by air in California.

TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Avoid direct application to any body of water.

Use the recommended rates of this herbicide in 3 to 25 gallons of water per acre.

Drift reduction additives may be used. When a drift reduction additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application—To avoid streaked, uneven or overlapped application, use appropriate marking devices.

PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion. To prevent corrosion of exposed parts, thoroughly wash aircraft after each day of spraying to remove residues of this product accumulated during spraying or from spills. Landing gear is most susceptible.

#### 7.2 Ground Broadcast Equipment

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat-fan nozzles. Check for even distribution of spray droplets.

#### 7.3 Hand-Held or High-Volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of run-off. Use coarse sprays only.

For control of weeds listed in the "ANNUAL WEEDS" section of "WEEDS CONTROLLED", apply a 0.4-percent solution of this product to weeds less than 6 inches in height or runner length. For annual weeds over 6 inches tall, or unless otherwise specified, use a 0.7-percent solution. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds.

For best results, use a 1.5-percent solution on harder-to-control perennials, such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

For low volume directed spray applications, use a 4- to 7-percent solution of this product for control or partial control of annual weeds, perennial weeds, or woody brush and trees. Spray coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sprouts.

#### 7.4 Selective Equipment

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars, after dilution and thorough mixing with water, to listed weeds growing in any non-crop site specified on this label.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

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**AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION, AS SERIOUS INJURY OR DEATH IS LIKELY TO OCCUR.**

Application equipment used above desired vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation is likely to result in discoloration, stunting or destruction.

Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

#### **Shielded and Hooded Applicators**

A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide. Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

#### **Wiper Applicators and Sponge Bars**

A wiper or sponge applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

**For Rope or Sponge Wick Applicators**—Solutions ranging from 25 to 50 percent of this product in water may be used.

**For Panel Applicators and Pressure-feed Systems**—Solutions ranging from 25 to 100 percent of this product in water may be used.

When applied as recommended, this product **CONTROLS** the following weeds:

Corn, volunteer	Sicklepod
Panicum, Texas	Spanishneedles
Rye, common	Starbur, bristly
Shattercane	

When applied as recommended, this product **SUPPRESSES** the following weeds:

Beggarweed, Florida	Ragweed, common
Bermudagrass	Ragweed, giant
Dogbane, hemp	Smutgrass
Dogfennel	Sunflower
Guineagrass	Thistle, Canada
Johnsongrass	Thistle, musk
Milkweed	Vaseygrass
Nightshade, silverleaf	Velvetleaf
Pigweed, redroot	

#### **7.5 Injection Systems**

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the undiluted concentrate of other products when using injection systems unless specifically recommended.

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#### 7.6 CDA Equipment

The rate of this product applied per acre by controlled droplet application (CDA) equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 2 to 15 gallons of water per acre.

CDA equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction is likely to result.

#### 8.0 SITE AND USE RECOMMENDATIONS

Detailed instructions follow alphabetically, by site.

Unless otherwise specified, applications may be made to control any weeds listed in the "WEEDS CONTROLLED" section of this label. Refer also to the "SELECTIVE EQUIPMENT" section.

#### 8.1 Cut Stump

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100- percent solution of this product to the freshly cut surface **immediately after** cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder	Salicedar
Eucalyptus	Sweetgum
Madrone	Tan oak
Oak	Willow
Reed, giant	

DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

#### 8.2 Forestry Site Preparation

This product is recommended for the control or partial control of woody brush, trees and herbaceous weeds in forestry. This product is also recommended for use in preparing or establishing wildlife openings within these sites and maintaining logging roads.

This product is recommended for use in site preparation prior to planting any tree species, including Christmas trees, eucalyptus, hybrid tree cultivars and silvicultural nursery sites.

#### APPLICATION RATES AND TIMING

APPLICATION	[INSERT BRAND NAME]	SPRAY VOLUME GAL/A
<b><u>BROADCAST</u></b>		
Aerial	1.5 to 6.5 quarts per acre	5 to 30
Ground	1.5 to 6.5 quarts per acre	10 to 60
<b><u>SPRAY-TO-WET</u></b>		
Handgun, Backpack	0.7 to 1.5 percent by volume	spray-to-wet
<b><u>LOW VOLUME DIRECTED SPRAY</u></b>		
Handgun, Backpack	4 to 7 percent by volume	partial coverage*

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\*For low volume directed spray applications, coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one-half of the plant is important for best results.

Use higher rates of this product within the recommended range for control or partial control of woody brush, trees and hard-to-control perennial herbaceous weeds. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Increase rates within the recommended range for control of perennial herbaceous weeds any time after emergence and before seedheads, flowers or berries appear.

Use the lower rates of this product within the recommended range for control of annual herbaceous weeds and actively growing perennial herbaceous weeds after seedheads, flowers or berries appear. Apply to the foliage of actively growing annual herbaceous weeds any time after emergence.

This product has no herbicidal or residual activity in the soil. Where repeat applications are necessary, do not exceed 7 quarts of this product per acre per year.

**TANK MIXTURES:** Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture.

**NOTE:** For forestry site preparation, make sure the tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions.

Any recommended rate of this product may be used in a tank mix with the following products for forestry site preparation.

<u>PRODUCT</u>	<u>BROADCAST RATE</u>
Arsenal™ Applicators Concentrate	2 to 16 fluid ounces per acre
Escort™	0.5 to 3.5 fluid ounce per acre
Chopper™	4 to 32 fluid ounce per acre
Garlon™ 4	1 to 4 quarts per acre
Oust™	1 to 4 ounces per acre

<u>PRODUCT</u>	<u>SPRAY-TO-WET RATES</u>
Arsenal Applicators Concentrate	0.03 to 0.5 percent by volume

<u>PRODUCT</u>	<u>LOW VOLUME DIRECTED SPRAY RATES</u>
Arsenal Applicators Concentrate	0.1 to 0.5 percent by volume

For control of herbaceous weeds, use the lower recommended tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher recommended rates.

**Unless otherwise directed, do not apply this product as an over-the-top broadcast spray for forestry conifer or hardwood release.**

#### 8.3 General Non-crop Areas, Industrial Sites

Use in areas such as airports, apartment complexes, ditch banks, dry ditches, dry canals, fencerows, golf courses, industrial sites, lumber yards, manufacturing sites, office complexes, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, substations, warehouse areas, other public areas, and similar industrial and non-crop sites.

##### **General Weed Control, Trim-and-Edge, Bare Ground**

This product may be used in general non-crop areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in non-crop sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

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**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites. Refer to these products' labels for approved non-crop sites and application rates.

Arsenal	Plateau™
Clarity™	Princep™ DF
Barricade™ 65WG	Princep Liquid
Diuron	Ronstar™ 50WP
Endurance™	Sahara™
Escort	Simazine
Garlon 3A	Surflan™
Garlon 4	Telar™
Karmex™ DF	Vanguard™
Krovar™ I DF	2,4-D
Manage®	
Oust	
Pendulum™ 3.3EC	
Pendulum WDG	

This product plus dicamba tank mixtures may not be applied by air in California.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 22 to 44 fluid ounces of this product plus 2 to 4 ounces of Oust per acre.

Bahiagrass	Johnsongrass
Bermudagrass	Poorjoe
Broomsedge	Quackgrass
Dallisgrass	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	
Fescue, tall	

#### Chemical Mowing—Perennials

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 4 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 4 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

#### Chemical Mowing—Annuals

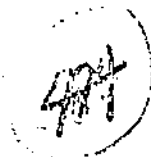
For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 3 to 4 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

#### ***Bromus* Species and Medusahead in Pastures and Rangelands**

***Bromus* species.** This product may be used to treat downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*) and cheatgrass (*Bromus secalinus*) found in industrial, rangeland and pasture sites. Apply 6 to 11 fluid ounces of this product per acre on a broadcast basis.

For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses can become reestablished on the site.

***Medusahead.*** To treat medusahead, apply 11 fluid ounces of this product per acre as soon as plants are actively growing, and prior to the 4-leaf stage. Applications may be made in the fall or spring.





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Applications to brome and medusahead may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre. When applied as directed in this label, there are no grazing restrictions.

#### **Dormant Turfgrass**

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant Bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring green-up.

Apply 6 to 44 fluid ounces of this product per acre. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 11 fluid ounces per acre may result in injury or delayed green-up in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for dormant Bermudagrass and bahiagrass treatments.

#### **Actively Growing Bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. DO NOT apply more than 11 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for actively growing Bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

#### **Turfgrass Renovation, Seed, Sod Production**

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as Bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass.

Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

### **8.4 Habitat Management**

#### **Habitat Restoration and Management**

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

#### **Wildlife Food Plots**

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

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### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

#### 8.5 Injection and Frill (Woody Brush and Trees)

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 0.04 fluid ounce (1 mL) of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50- to 100-percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow run-off to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100-percent concentration of this product. For best results, application should be made during periods of active growth and after full leaf expansion. This product will control many species, some of which are listed below:

<u>Control</u>	<u>Partial Control</u>
Oak	Black gum
Poplar	Dogwood
Sweetgum	Hickory
Sycamore	Maple, red

#### 8.6 Ornamentals, Plant Nurseries, and Christmas Trees

##### Post-Directed, Trim-and-Edge

This product may be used as a post-directed spray around established woody ornamental species such as arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce and yew. This product may also be used to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting.

Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. **UNLESS OTHERWISE DIRECTED, THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES.** Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

##### Site Preparation

This product may be used prior to planting any ornamental, nursery or Christmas tree species.

##### Wiper Applicators

This product may be used through wick or other suitable wiper applicators to control or partially control undesirable vegetation around established eucalyptus or poplar trees. See the "SELECTIVE EQUIPMENT" section of this label for further information about the proper use of wiper applicators.

##### Greenhouse/Shadehouse

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

#### 8.7 Parks, Recreational and Residential Areas

This product may be used in parks, recreational and residential areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around trees, fences, and paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation. This product may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

All of the instructions in the "GENERAL NON-CROP AREAS AND INDUSTRIAL SITES" section apply to park and recreational areas.

#### 8.8 Railroads

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### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

All of the instructions in the "GENERAL NON-CROP AREAS AND INDUSTRIAL SITES" section apply to railroads.

#### Bare Ground, Ballast and Shoulders, Crossings, Spot Treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites, for ballast, shoulder, spot, bare ground and crossing treatments:

Arsenal	Krovar I DF
Clarity	Oust
Diuron	Sahara
Escort	Spike™
Garlon 3A	Telar
Garlon 4	Vanquish
Hyvar™ X	2,4-D

#### Brush Control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 2.5 to 7 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a 0.7- to 1.5-percent solution of this product when using high-volume spray-to-wet applications. Apply a 4- to 7-percent solution of this product when using low volume directed sprays for spot treatment. This product may be mixed with the following products for enhanced control of woody brush and trees:

Arsenal	Garlon 4
Escort	Tordon™ K
Garlon 3A	

#### Bermudagrass Release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 11 to 32 fluid ounces of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpetcreeper
Fescue, tall	Vaseygrass

This product may be tank-mixed with Oust. If tank-mixed, use no more than 11 to 32 fluid ounces of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Blackberry	Johnsongrass
Bluestem, silver	Poorjoe
Broomsedge	Raspberry
Dallisgrass	Trumpetcreeper
Dewberry	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may occur.

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### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

#### 8.9 Roadsides

All of the instructions in the "GENERAL NON-CROP AREAS AND INDUSTRIAL SITES" section apply to roadsides.

##### Shoulder Treatments

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

##### Guardrails and Other Obstacles to Mowing

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

##### Spot Treatment

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

**TANK MIXTURES:** This product may be tank mixed with the following products provided that the specific product is registered for such non-crop treatments:

Clarity	Princep Liquid
Diuron	Ronstar 50WP
Endurance	Sahara
Escort	Simazine
Krovar I DF	Surflan
Oust	Telar
Outrider	Vanquish
Pendulum 3.3 EC	2,4-D
Pendulum WDG	
Princep DF	

See the "GENERAL NON-CROP AREAS AND INDUSTRIAL SITES" section of this label for general instructions for tank mixing.

##### Release of Bermudagrass or Bahiagrass

###### Dormant Applications

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant Bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring green-up. This product may also be tank-mixed with Outrider or Oust for residual control. Tank mixtures of this product with Oust may delay green-up.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 6 to 44 fluid ounces of this product in a tank mixture with 0.75 to 1.3 ounces Outrider herbicide per acre. Read and follow all label directions for Outrider herbicide.

Apply 6 to 44 fluid ounces of this product per acre alone or in a tank mixture with 0.25 to 1 ounce per acre of Oust. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in green-up and minimize injury, add no more than 1 ounce of Oust per acre on Bermudagrass and no more than 0.5 ounce of Oust per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

###### Actively Growing Bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 11 to 32 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass

Johnsongrass

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### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank mixed with Outrider for control or partial control of Johnsongrass and other weeds listed in the Outrider label. Use 6 to 22 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider. Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height.

This product may be tank-mixed with Oust. If tank-mixed, use no more than 11 to 22 fluid ounces of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Bluestem, silver	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Trumpet creeper
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not recommended, since severe injury may occur.

#### Actively Growing Bahiagrass

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 2 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

This product may be used for control or partial control of Johnsongrass and other weeds listed on the Outrider label in actively growing bahiagrass. Apply 1 to 3.3 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider per acre. Use the higher rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well established bahiagrass.

A tank mixture of this product plus Oust may be used. Apply 4 fluid ounces of this product plus 0.25 ounce of Oust per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

#### 8.10 Utility Sites

In utilities, this product is recommended for use along electrical power, pipeline and telephone rights-of-way, and in other sites associated with these rights-of-way, such as substations, roadsides, railroads or similar rights-of-way that run in conjunction with utilities.

This product is also recommended for use in preparing or establishing wildlife openings within these sites, maintaining access roads and for side trimming along utility rights-of-way.

**TANK MIXTURES:** Tank mixtures of this product may be used to increase the spectrum of control for herbaceous weeds, woody brush and trees provided that the specific product is registered for application to the desired site. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture. Any recommended rate of this product may be used in a tank mix.

For control of herbaceous weeds, use the lower recommended tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher recommended rates.

**NOTE:** For side trimming treatments, it is recommended that this product be used alone or in tank mixture with Garlon 4.

PRODUCT	BROADCAST RATE	USE SITES
Arsenal 2WSL	6 to 32 fluid ounces per acre	Utility Sites



### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Escort	1 to 2 ounces per acre	Utility Sites
Garlon 3A*, Garlon 4	1 to 4 quarts per acre	Utility Sites/ Side Trimming
Oust	1 to 4 ounces per acre	Utility Sites

PRODUCT	SPRAY-TO-WET RATES	USE SITES
Arsenal 2WSL	0.05 to 0.12 percent by volume	Utility Sites
Escort	1 to 2 ounces per acre	Utility Sites

PRODUCT	LOW VOLUME DIRECTED SPRAY RATES	USE SITES
Arsenal 2 WSL	0.1 to 0.5 percent by volume	Utility Sites
Escort	1 to 2 ounces per acre	Utility Sites

\*Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray compatibility problems.

#### Bare Ground, Trim-and-Edge

This product may be used in utility sites and substations for bare ground, trim-and-edge around objects, spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

**TANK MIXTURES:** This product may be tank mixed with the following products, provided that the specific product is registered for bare ground or trim-and-edge treatments. Refer to these products' labels for approved non-crop sites and application rates.

Arsenal	Plateau
Banvel™	Princep DF
Barricade 65WG	Princep Liquid
Diuron	Ronstar 50WP
Endurance	Sahara™
Escort	Simazine
Garlon 3A	Surflan

#### 9.0 WEEDS CONTROLLED

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Reduced results may occur when treating weeds heavily covered with dust. For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

Refer to the following label sections for recommended rates for the control of annual and perennial weeds and woody brush and trees. For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions, or where infestations are dense, this product may be used at 4 to 7 quarts per acre for enhanced results.

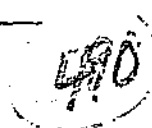
##### 9.1 Annual Weeds

Use 22 fluid ounces per acre if weeds are less than 6 inches in height or runner length and 32 to 86 fluid ounces per acre if weeds are over 6 inches in height or runner length or when weeds are growing under stressed conditions.

For spray-to-wet applications, apply a 0.4-percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or for smaller weeds growing under stressed conditions, use a 0.7- to 1.5-percent solution. Use the higher rate for tough-to-control species or for weeds over 24 inches tall.

#### Weed Species

Annoda, spurred



### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Barley\*  
Barnyardgrass\*  
Bittercress\*  
Black nightshade\*  
Bluegrass, annual\*  
Bluegrass, bulbous\*  
Bassia, fivehook  
Brome, downy\*  
Brome, Japanese\*  
Browntop panicum\*  
Buttercup\*  
Carolina foxtail\*  
Carolina geranium  
Castor bean  
Cheatgrass\*  
Cheeseweed (*Malva parviflora*)  
Chervil\*  
Chickweed\*  
Cocklebur\*  
Copperleaf, hophornbeam  
Corn\*  
Corn speedwell\*  
Crabgrass\*  
Dwarf dandelion\*  
Eastern mannagrass\*  
Eclipta\*  
Fall panicum\*  
Falsedandelion\*  
Falseflax, smallseed\*  
Fiddleneck  
Field pennycress\*  
Filaree  
Fleabane, annual\*  
Fleabane, hairy (*Conyza bonariensis*)\*  
Fleabane, rough\*  
Florida pusley  
Foxtail\*  
Goatgrass, jointed\*  
Goosegrass  
Grain sorghum (milo)\*  
Groundsel, common\*  
Hemp sesbania  
Henbit  
Horseweed/Marestail (*Conyza canadensis*)  
Itchgrass\*  
Johnsongrass, seedling  
Junglerice  
Knotweed  
Kochia  
Lamb's-quarters\*  
Little barley\*  
London rocket\*  
Mayweed  
Medusahead\*

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Morningglory (*Ipomoea spp*)

Mustard, blue\*

Mustard, tansy\*

Mustard, tumble\*

Mustard, wild\*

Oats

Pigweed\*

Plains/Tickseed coreopsis\*

Prickly lettuce\*

Puncturevine

Purslane, common

Ragweed, common\*

Ragweed, giant

Red rice

Russian thistle

Rye\*

Ryegrass\*

Sandbur, field\*

Shattercane\*

Shepherd's-purse\*

Sicklepod

Signalgrass, broadleaf\*

Smartweed, ladythumb\*

Smartweed, Pennsylvania\*

Sowthistle, annual

Spanishneedles

Speedwell, purslane\*

Sprangletop\*

Spurge, annual

Spurge, prostrate\*

Spurge, spotted\*

Spurry, umbrella\*

Starthistle, yellow

Stinkgrass\*

Sunflower\*

Teaweed/Prickly sida

Texas panicum\*

Velvetleaf

Virginia copperleaf

Virginia pepperweed\*

Wheat\*

Wild oats\*

Witchgrass\*

Woolly cupgrass\*

Yellow rocket

\*When using field broadcast equipment (aerial applications or boom sprayers using flat-fan nozzles) these species will be controlled or partially controlled using 11 fluid ounces of this product per acre. Applications must be made using 3 to 10 gallons of carrier volume per acre. Use nozzles that ensure thorough coverage of foliage and treat when weeds are in an early growth stage.

#### 9.2 Perennial Weeds

Best results are obtained when perennial weeds are treated after they reach the reproductive stage of growth (seedhead initiation in grasses and bud formation in broadleaves). For non-flowering plants, best results are obtained

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### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

when the plants reach a mature stage of growth. In many situations, treatments are required prior to these growth stages. Under these conditions, use the higher application rate within the recommended range.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed spot treatments, apply a 4- to 7-percent solution of this product.

Allow 7 or more days after application before tillage.

Weed Species	Rate (QT/A)	Hand-Held % Solution
Alfalfa*	0.7	1.5
Alligatorweed*	2.5	1
Anise (fennel)	1.5 - 2.5	1 - 1.5
Bahiagrass	2 - 3.3	1.5
Beachgrass, European ( <i>Ammophila arenaria</i> )	—	3.5
Bentgrass*	1	1.5
Bermudagrass	3.3	1.5
Bermudagrass, water (knotgrass)	1	1.5
Bindweed, field	2.5 - 3.3	1.5
Bluegrass, Kentucky	1.5	1.5
Blueweed, Texas	2.5 - 3.3	1.5
Brackenfern	2 - 2.5	1
Bromegrass, smooth	1.5	1.5
Bursage, woolly-leaf	—	1.5
Canarygrass, reed	1.5 - 2	1.5
Cattail	2 - 3.3	1.5
Clover, red, white	2 - 3.3	1.5
Cogongrass	2 - 3.3	1.5
Dallisgrass	2 - 3.3	1.5
Dandelion	2 - 3.3	1.5
Dock, curly	2 - 3.3	1.5
Dogbane, hemp	2.5	1.5
Fescue (except tall)	2 - 3.3	1.5
Fescue, tall	1 - 2	1.5
German ivy	1.5 - 2.5	1 - 1.5
Guineagrass	2	1
Horsenettle	2 - 3.3	1.5
Horseradish	2.5	1.5
Iceplant	1.5	1.5 - 2
Jerusalem artichoke	2 - 3.3	1.5
Johnsongrass	1.5 - 2	1
Kikuyugrass	1.5 - 2	1.5
Knapweed	2.5	1.5
Lantana	—	1
Lespedeza	2 - 3.3	1.5
Milkweed, common	2	1.5
Muhly, wirestem	1.5	1.5
Mullein, common	2 - 3.3	1.5
Napiergrass	2 - 3.3	1.5
Nightshade, silverleaf	1.5	1.5
Nutsedge, purple, yellow	2	1 - 1.5
Orchardgrass	1.5	1.5
Pampasgrass	2 - 3.3	1 - 1.5
Paragrass	2 - 3.3	1.5

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### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Pepperweed, perennial	2.5	1.5
Phragmites*	2 - 3.3	1 - 1.5
Poison hemlock	1.5 - 2.5	1 - 1.5
Quackgrass	1.5 - 2	1.5
Redvine*	1.5	1.5
Reed, giant	2.5 - 3.3	1.5
Ryegrass, perennial	1.5 - 2	1
Smartweed, swamp	2 - 3.3	1.5
Spurge, leafy*	-	1.5
Sweet potato, wild*	-	1.5
Thistle, artichoke	1.5 - 2	1 - 1.5
Thistle, Canada	1.5 - 2	1.5
Timothy	1.5 - 2	1.5
Torpedograss*	2.5 - 3.3	1.5
Trumpetcreeper*	1.5 - 2	1.5
Vaseygrass	2 - 3.3	1.5
Velvetgrass	2 - 3.3	1.5
Wheatgrass, western	1.5 - 2	1.5

\*Partial control

#### 9.3 Woody Brush and Trees

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed-spray spot treatments, apply a 4- to 7-percent solution of this product.

Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

Weed Species	Broadcast Rate (QT/A)	Hand-Held Spray-to-Wet % Solution
Alder	2 - 2.5	1
Ash*	1.5 - 3.3	1 - 1.5
Aspen, quaking	1.5 - 2	1
Bearclover (Bearmat)*	1.5 - 3.3	1 - 1.5
Beech*	1.5 - 3.3	1 - 1.5
Birch	1.5	1
Blackberry	2 - 2.5	1
Blackgum	1.5 - 3.3	1 - 1.5
Bracken	1.5 - 3.3	1 - 1.5
Broom, French, Scotch	1.5 - 3.3	1 - 1.5
Buckwheat, California*	1.5 - 2.5	1 - 1.5
Cascara*	1.5 - 3.3	1 - 1.5
Catsclaw*	-	1
Ceanothus*	1.5 - 3.3	1 - 1.5

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Chamise*	1.5 - 3.3	1
Cherry; bitter, black, pin	1.5 - 2	1
Coyote brush	2 - 2.5	1 - 1.5
Deerweed	1.5 - 3.3	1
Dogwood*	1.5 - 3.3	1 - 1.5
Elderberry	1.5	1
Elm*	1.5 - 3.3	1 - 1.5
Eucalyptus	--	1.5
Gorse*	1.5 - 3.3	1 - 1.5
Hasardia*	1.5 - 2.5	1 - 1.5
Hawthorn	1.5 - 2	1
Hazel	1.5	1
Hickory*	1.5 - 3.3	1 - 1.5
Honeysuckle	2 - 2.5	1
Hornbeam, American*	1.5 - 3.3	1 - 1.5
Kudzu	2.5	1.5
Locust, black*	1.5 - 2.5	1 - 1.5
Madrone resprouts*	--	1.5
Manzanita*	1.5 - 3.3	1 - 1.5
Maple, red	1.5 - 2.5	1
Maple, sugar	--	1
Monkey flower*	1.5 - 2.5	1 - 1.5
Oak; black, white*	1.5 - 2.5	1 - 1.5
Oak, post	2 - 2.5	1
Oak; northern, pin	1.5 - 2.5	1
Oak, Scrub*	1.5 - 2.5	1
Oak; southern red	1.5 - 2	1
Peppertree, Brazilian (Florida holly)*	1.5 - 3.3	1 - 1.5
Persimmon*	1.5 - 3.3	1 - 1.5
Pine	1.5 - 3.3	1 - 1.5
Poison ivy	2.5 - 3.3	1.5
Poison oak	2.5 - 3.3	1.5
Poplar, yellow*	1.5 - 3.3	1 - 1.5
Redbud, eastern	1.5 - 3.3	1 - 1.5
Rose, multiflora	1.5	1
Russian olive*	1.5 - 3.3	1 - 1.5
Sage, black	1.5 - 2.5	1
Sage, white*	1.5 - 2.5	1 - 1.5
Sage brush, California	1.5 - 2.5	1
Salmonberry	1.5	1
Saltcedar*	1.5 - 3.3	1 - 1.5
Sassafras*	1.5 - 3.3	1 - 1.5
Sourwood*	1.5 - 3.3	1 - 1.5
Sumac; laurel, poison, smooth, sugarbush, winged*	1.5 - 2.5	1 - 1.5
Sweetgum	1.5 - 2	1
Swordfern*	1.5 - 3.3	1 - 1.5
Tallowtree, Chinese	--	1
Tan oak resprouts*	--	1.5
Thimbleberry	1.5	1
Tobacco, tree*	1.5 - 2.5	1 - 1.5
Toyon*	--	1.5
Trumpet creeper	1.5 - 2	1
Vine maple*	1.5 - 3.3	1 - 1.5

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### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Virginia creeper	1.5 - 3.3	1 - 1.5
Waxmyrtle, southern*	1.5 - 3.3	1 - 1.5
Willow	2	1
Yerbasanta*	-	1.5

\*Partial control

#### 10.0 LIMIT OF WARRANTY AND LIABILITY

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

[INSERT BRAND NAME], Manage, Outrider, Monsanto and Vine symbol are trademarks of Monsanto Technology LLC.

Escort, Hyvar, Krovar, Oust, and Telar are trademarks of E.I. duPont de Nemours & Co. Inc.

Garlon, Spike, Surflan and Tordon are trademarks of Dow AgroSciences

Karmex is a trademark of Griffin LLC.

Barricade, Endurance, Princep and Vanquish are trademarks of Sygenta Group

Ronstar is a trademark of Aventis Group.

Arsenal, Pendulum, Plateau, and Sahara are trademarks of BASF Corporation

This product is protected by U.S. Patents No. 6,365,551 and RE 37,866. Other patents pending. No license granted under any non-U.S. patent(s).

EPA Reg. No. 524-539

In case of an emergency involving this product,  
or for medical assistance,  
Call Collect, day or night, (314) 694-4000.

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III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

©[DATE] MONSANTO COMPANY  
ST. LOUIS, MISSOURI, 63167 U.S.A.

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IV. SUPPLEMENTAL LABELING FOR INDUSTRIAL, TURF, & ORNAMENTAL USES
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Table of Contents: Industrial, Turf, and Ornamental Supplemental labeling

	Name	Approval Date
A	FOR USE FOR SELECTIVE WEED CONTROL ON [INSERT BRAND NAME] TOLERANT PURE GOLD® TALL FESCUE AND AURORA GOLD® FINE FESCUE SELECTIONS.	07-May-2002
B	[INSERT BRAND NAME] HERBICIDE AND TANK MIXTURES FOR NON-CROP AREAS, INCLUDING RAILROAD RIGHTS-OF-WAY, SUBSTATIONS, AIRPORTS, INDUSTRIAL PLANTS, ROADSIDES, STORAGE AREAS AND SIMILAR SITES	07-May-2002
C	AERIAL APPLICATIONS IN CALIFORNIA	07-May-2002
D	CONIFER RELEASE APPLICATIONS	20-Nov-2002*

\*Approved on Master Label for EPA Reg No. 524-445.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR [INSERT BRAND NAME] BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using [INSERT BRAND NAME] as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

[INSERT BRAND NAME HERE]

Herbicide

EPA Reg. No. 524-539

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

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[INSERT BRAND NAME] is a trademark of Monsanto Technology LLC.

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#### DIRECTIONS FOR USE

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It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for [INSERT BRAND NAME] for essential product performance information.

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#### [INSERT SPECIFIC USE DIRECTIONS FROM FOLLOWING SECTIONS HERE]

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Read the "Limit of Warranty and Liability" in the label booklet for [INSERT BRAND NAME] before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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© [DATE] MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

**A. FOR USE FOR SELECTIVE WEED CONTROL ON [INSERT BRAND NAME] TOLERANT PURE GOLD® TALL FESCUE AND AURORA GOLD® FINE FESCUE SELECTIONS.**

**[INSERT BRAND NAME] Tolerant Tall Fescue Selections For Seed Production**

Use this product on [INSERT BRAND NAME] tolerant tall and fine fescue grown for seed production only.

This product may be applied at rates of 3 to 11 fluid ounces per acre as a postemergence spray on [INSERT BRAND NAME] tolerant tall fescue selections. See the label booklet for application instructions, rate recommendations, weeds controlled and proper growth stage of weeds.

When applied postemergence, this product will control or suppress the following weeds: annual bluegrass mustards, downy brome, cheatgrass, chickweed, pennycress, fleabane, shepherd's-purse, sowthistle, wild oat, dandelion, quackgrass, and Canada thistle. See the [INSERT BRAND NAME] label booklet for a complete list of weeds controlled or suppressed.

**NOTE:** The recommended rate for this use will limit the level of control of certain species of weeds.

**NOTE:** Some crop discoloration and yellowing may occur at higher rates of application with [INSERT BRAND NAME] tolerant tall and fine fescue selections. Reduction in stand of these selections may occur under stress conditions.

**Timing Of Applications**

Applications can be made 6 weeks after germination and to established crops after growth resumes in the Fall until onset of dormancy and in the Spring after dormancy break until 60 days prior to harvest.

Avoid spraying during or within two weeks after periods when air temperatures fall below 25°F.

Remove domestic livestock from the seed production field prior to application. Wait 60 days after making this application before grazing or harvesting the treated area.

**NOTE:** Only two applications per crop growth cycle may be made to any one site. If two applications are required, only one Fall and one Spring application may be made during one 12 month cycle.

**B. [INSERT BRAND NAME] HERBICIDE AND TANK MIXTURES FOR NON-CROP AREAS, INCLUDING RAILROAD RIGHTS-OF-WAY, SUBSTATIONS, AIRPORTS, INDUSTRIAL PLANTS, ROADSIDES, STORAGE AREAS AND SIMILAR SITES**

Do not allow spray mixtures of this herbicide to mist, drip, drift or splash onto desirable vegetation since injury or destruction may occur. Do not apply when wind or other conditions favor drift.

See the "WEEDS CONTROLLED" section of the [INSERT BRAND NAME] label booklet for rate recommendations. For difficult to control species, where dense stands occur, or where conditions for control are not ideal, 4 to 7 quarts per acre of this product may be used for improved results.

**TANK MIXTURES**

This product provides control of the emerged weeds listed in the label booklet. When applied as a tank mixture, the following herbicides will provide preemergence and/or postemergence control of the weeds listed in the individual product labels.

The following list of products may be tank mixed with this product, provided that the specific product is registered for application to the desired site. Any recommended rate of this product may be used in a tank mixture with these products.

<u>Tank-mix Product</u>	<u>Rate per Acre</u>
Arsenal <sup>TM</sup>	0.5 to 4 pints
Banvel	1 to 4 pints





#### IV. SUPPLEMENTAL LABELING FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

2,4-D	0.5 to 1 pound
Garlon™ 3A	1 to 6 pints
Garlon 4	1 to 6 pints
Diuron	4 to 8 pounds
Diuron + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Diuron + Garlon 3A	4 to 10 pounds + 1 to 2 pints
Diuron + Garlon 4	4 to 10 pounds + 1 to 2 pints
Hyvar™ X	4 to 8 pounds
Hyvar X + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Hyvar X + Garlon 3A	4 to 8 pounds + 1 to 2 pints
Hyvar X + Garlon 4	4 to 8 pounds + 1 to 2 pints
Krovar™ I DF	4 to 6 pounds
Krovar I DF + 2,4-D	4 to 6 pounds + 0.5 to 1 pound
Krovar I DF + Garlon 3A	4 to 6 pounds + 1 to 2 pints
Krovar I DF + Garlon 4	4 to 6 pounds + 1 to 2 pints
Oust™	2 to 6 ounces
Oust + 2,4-D	2 to 6 ounces + 0.5 to 1 pound
Oust + Garlon 3A	2 to 6 ounces + 1 to 2 pints
Oust + Garlon 4	2 to 6 ounces + 1 to 2 pints
Spike™ 80W	2 to 5 pounds
Spike 80W + 2,4-D	2 to 5 pounds + 0.5 to 1 pound
Spike 80W + Garlon 3A	2 to 5 pounds + 1 to 2 pints
Spike 80W + Garlon 4	2 to 5 pounds + 1 to 2 pints

\* Arsenal is not approved for use in the state of California.

Refer to the individual product labels for specific non-crop sites, rates, carrier volumes and precautionary statements.

Read and carefully observe the label claims, cautionary statements, recommended use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

Maintain good agitation at all times during the mixing process. Ensure that the tank-mix products are well mixed with the spray solution before adding this product.

Mix only the quantity of spray solution that can be used during the same day. Tank mixtures allowed to stand overnight may result in reduced weed control.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

When used in combination as recommended by Monsanto Company, the liability of Monsanto shall in no manner extend to any damage, loss or injury not solely and directly caused by the inclusion of the Monsanto product in such combination use.

Read "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for [INSERT BRAND NAME] before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

Arsenal is a trademark of American Cyanamid Company.

Banvel is a trademark of Sandoz Crop Protection Corporation.

Garlon and Spike are trademarks of Dow AgroSciences LLC

Hyvar, Krovar and Oust are trademarks of E. I duPont de Nemours and Company.

#### C. AERIAL APPLICATIONS IN CALIFORNIA

Aerial applications of this product are allowed in the following situations:

1. Prior to the emergence or transplanting of labeled crops
2. Aid to burning for establishment and maintenance of fuel breaks
3. Establishing fire perimeters and black lines

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#### IV. SUPPLEMENTAL LABELING FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

4. Aid to prescribed burning
5. Along fire roads
6. Range conversion
7. Habitat restoration and management
8. Wildlife food plots

Apply 22 fluid ounces to 3.3 quarts of this product in 5 to 15 gallons of water per acre using aerial (helicopter only) applications.

To broaden the spectrum of control, Garlon™ 4 may be tank mixed with this product at the rate of 0.5 to 2 quarts per acre. The rate of Garlon should not exceed one-half of the rate of this product (e.g. 1 quart of Garlon to 2 quarts of this product) for best results.

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

**AVOID DRIFT—DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH WILL ALLOW DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops.

1. Do not apply within 100 feet of any desirable vegetation or crop(s).
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within a minimum of 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.
5. **APPLY BY AIR ONLY TO NONRESIDENTIAL AREAS.**

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure. Drift reduction additives may be used. When a drift reduction additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

**Ensure uniform application**—To avoid streaking, uneven, or overlapped application, use appropriate marking devices.

**PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion. To prevent corrosion of exposed parts, thoroughly wash aircraft after each day of spraying to remove residues of this product accumulated during spraying or from spills. Landing gear are most susceptible.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for [INSERT BRAND NAME] before using this product. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

Garlon is a trademark of Dow AgroSciences LLC

#### D. CONIFER RELEASE APPLICATIONS

##### AERIAL APPLICATION

This product may be applied using aerial spray equipment for conifer release treatments. See the "APPLICATION EQUIPMENT and TECHNIQUES" part of the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS"

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#### IV. SUPPLEMENTAL LABELING FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

section of the label booklet for [INSERT BRAND NAME] herbicide for information on how to properly spray this product by air.

**DO NOT APPLY THIS PRODUCT BY AIR TO RIGHTS-OF-WAY SITES IN THE STATE OF CALIFORNIA.**

For release, apply only where conifers have been established for more than one year. Vegetation should not be disturbed prior to treatment or until visual symptoms appear after treatment. Symptoms of treatment are slow to appear, especially in woody species treated in late fall. Injury may occur to conifers treated for release, especially where spray patterns overlap or the higher rates are applied or when applications are made during periods of active conifer growth. **Do not use additional surfactant with conifer release applications.**

Applications must be made after formation of final conifer resting buds in the fall or prior to initial bud swelling in spring. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Use the following rates for conifer release to control or partially control the weeds listed in the "WEEDS CONTROLLED" section of the label booklet for [INSERT BRAND NAME] herbicide.

**For release of the following conifer species:**

<b>Douglas Fir</b>	<b>Pines*</b>
<i>Pseudotsuga menziesii</i>	<i>Pinus spp.</i>
<b>Fir</b>	<b>Spruce</b>
<i>Abies spp.</i>	<i>Picea spp.</i>
<b>Hemlock</b>	
<i>Tsuga spp.</i>	

\*Includes all species except eastern white pine, loblolly pine or slash pine.

Apply 32 to 44 fluid ounces of this product per acre except in Washington and Oregon, west of the crest of the Cascade Mountains. For spring treatments west of the crest of the Cascade Mountains, apply 22 fluid ounces of this product per acre before conifer bud swell for control of annual weeds. For fall treatments in Washington and Oregon, west of the crest of the Cascade Mountains, apply 22 to 32 fluid ounces of this product per acre before any major leaf drop of deciduous species.

For release of western hemlock apply 22 fluid ounces of this product per acre.

**For release of the following conifer species:**

<b>Loblolly pine</b>	<b>Slash pine</b>
<i>Pinus taeda</i>	<i>Pinus elliotii</i>
<b>Eastern white pine</b>	
<i>Pinus strobus</i>	

**Late Season Application**—Apply 32 to 44 fluid ounces of this product in a minimum of 5 gallons of spray solution per acre during early autumn. Applications made prior to September 1 or when conditions are conducive to rapid growth of conifers will result in potential for increased injury in the form of tip and/or needle burn. Injury may decrease with later application. Some autumn colors are acceptable at time of application. Apply prior to frost or leaf drop of undesirable plants. Applications made according to label direction will release loblolly pine, eastern white pine and slash pine by reducing competition from the following species:

<b>Ash</b>	<b>Oak, white</b>
<i>Fraxinus spp.</i>	<i>Quercus alba</i>
<b>Cherry, black</b>	<b>Persimmon</b>
<i>Prunus serotina</i>	<i>Diospyros spp.</i>
<b>Cherry, pin</b>	<b>Poplar, yellow</b>
<i>Prunus pensylvanica</i>	<i>Liriodendron tulipifera</i>
<b>Elm</b>	<b>Sassafras</b>
<i>Ulmus spp.</i>	<i>Sassafras albidum</i>
<b>Hawthorn</b>	<b>Sourwood</b>
<i>Crataegus spp.</i>	<i>Oxydendrum arboreum</i>
<b>Locust, black</b>	<b>Sumac, poison</b>
<i>Robinia pseudoacacia</i>	<i>Rhus vernix</i>

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#### IV. SUPPLEMENTAL LABELING FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Maple, red <i>Acer rubra</i>	Sumac, smooth <i>Rhus glabra</i>
Oak, black <i>Quercus velutina</i>	Sumac, winged <i>Rhus copallina</i>
Oak, post <i>Quercus stellata</i>	Sweetgum <i>Liquidambar styraciflua</i>
Oak, southern red <i>Quercus falcata</i>	

Apply only to those sites where woody brush and trees listed in this label constitute the majority of the undesirable species.

#### [INSERT BRAND NAME] HERBICIDE PLUS OUST™ TANK MIXTURES FOR CONIFER RELEASE FROM HERBACEOUS WEEDS

To release loblolly pines from herbaceous weeds, tank mixtures of this product with Oust will provide control of annual weeds listed in the "WEEDS CONTROLLED" section of the label booklet for [INSERT BRAND NAME] herbicide and the Oust label, and partial control of the perennial weeds listed below.

Apply 11 to 16 fluid ounces of [INSERT BRAND NAME] herbicide with 2 to 4 ounces of Oust in 10 to 30 gallons of spray solution per acre. Make application to actively growing weeds as a broadcast spray over the top of the young loblolly pines.

This product plus Oust tank mixtures may not be applied by air in California.

This tank mixture may be applied using aerial equipment. When applying by air, use the recommended rate in 5 to 15 gallons of spray solution per acre.

For control of annual weeds below 12 inches in height (or runner length on annual vines), use the low rates of both products. Use the higher rates of both products when annual weeds are in more advanced stages of growth and approaching flower or seed formation.

Use the higher rates of both products for partial control of the following perennial weeds. Use the lower rates for suppression of growth.

<b>Bahiagrass</b> <i>Paspalum notatum</i>	<b>Johnsongrass**</b> <i>Sorghum halepense</i>
<b>Broomsedge</b> <i>Andropogon virginicus</i>	<b>Poorjoe**</b> <i>Diodia teres</i>
<b>Dock, curly</b> <i>Rumex crispus</i>	<b>Trumpet creeper*</b> <i>Campsis radicans</i>
<b>Dogfennel</b> <i>Eupatorium capillifolium</i>	<b>Vaseygrass</b> <i>Paspalum urvillei</i>
<b>Fescue, tall</b> <i>Festuca arundinacea</i>	<b>Vervain, blue</b> <i>Verbena hastata</i>

\*Suppression at the higher rates only.

\*\*Control at the higher rates.

Pine damage may occur or can be accentuated if treatment takes place when young trees are under stress from drought, flood water, insects or disease.

Read and observe the cautionary statements and all other information appearing on the labels of all herbicides used.

Oust is a trademark of E.I. duPont de Nemours & Co. Inc.

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1. IS A PUBLIC LAW NECESSARY? <input type="checkbox"/> YES <input type="checkbox"/> NO		4. PETITION NO.		5. RECEIVED ON FEB.	
6. METHOD OF SUPPORT <input type="checkbox"/> IN <input type="checkbox"/> IS <input type="checkbox"/> IS		7. PRODUCT MANAGER		8. PRODUCTED DATE	
9. DATE FILED 1/23/04	10. DATE FILED AUP	11. ACTION TYPE Review Master Label 360		12. SUPERVISING DATE	
13. REVIEW TYPE	REVIEW TYPE	REVIEWER CODE (Initials)	SIGNATURE OF REVIEWER	COMMENT CODE	DATE REVIEW COMPLETED
					NO
A	REVIEWABILITY TEAM				
B	PRODUCT MANAGER TEAM EFFICACY REVIEW				
C	PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW				
D	PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW				
E	PRODUCT MANAGER TEAM REGULATION REVIEW				
F	PRODUCT MANAGER		VIEW NAC 011		2/3/04
G	INTERAGENCY REFERRAL				
H	COST-BENEFIT REVIEW				
I	PUBLIC COMMENTS REVIEW				
J	USE-RELATED HAZARDOUS EFFICACY				
K	USE-RELATED HAZARDOUS EFFICACY				
L	USE-RELATED HAZARDOUS EFFICACY				
M	USE-RELATED HAZARDOUS EFFICACY				
N	USE-RELATED HAZARDOUS EFFICACY				
O	CHEMISTRY BOARD REMOVE CHEMISTRY				
P	USE-RELATED HAZARDOUS ENVIRONMENTAL CHEMISTRY				
Q	TOXICOLOGY BOARD HUMAN SAFETY				
R	USE-RELATED HAZARDOUS ENVIRONMENTAL SAFETY				
S					
T					
PRODUCT MANAGER SIGNATURE		TYPE OF RESPONSE			CODE

MONSANTO  
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MONSANTO COMPANY  
600 15TH STREET, N.W.  
SUITE 660  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

October 30, 2003

Document Processing Center (AMEND)  
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U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

**Subject: Roundup Original 2K Herbicide (EPA Reg. No. 524-539)  
Amended Label Text for Approval**

Dear Mr. Tompkins:

The current Master Label for this registration was approved earlier this year on 28-May-2003. For the upcoming 2004 season, there are some changes that Monsanto desires to make, and so at this time I request review and approval of an amended Master Label. I have attached one MARKED version with the significant changes indicated, and three (3) UNMARKED copies as indicated in the footnote.

The following changes are requested. All page numbers refer to MARKED text:

1. Incorporate the Container Disposal text approved by EPA on 7-Aug-2003 (pages 6 – 7 and 81 – 82 of 110). In addition, the headers "PESTICIDE DISPOSAL" and "PESTICIDE STORAGE" recommended by the Agency were included.
2. Monsanto has revised its preference for use of the term "Roundup Ready" versus "with the Roundup Ready gene". The Section Titles for Parts I.11.1 – I.11.5 were changed accordingly, as well as a number of cross-references in Part I and II. The terminology change does not influence the actual use directions, and is intended to provide a smoother transition during the introduction of Roundup Ready Corn 2 and the Roundup Ready Flex Cotton varieties. Relevant pages are 4, 17, 18, 22, 25, and 35 – 41, and 59 of 110.

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3. Change the postemergence instructions for Roundup Ready Corn (page 37 – 39 of 110) to integrate the new instructions for Roundup Ready Corn 2. The proposed language has been approved on EPA Reg. No. 524-537 and requested for the 524-539 registration on 26-Aug-2003, but not yet approved as of today's date. It is important to clearly designate the different application instructions for the older and newer variety side-by-side, so that users will recognize the difference and not utilize the newer higher rates on the older lines, which could lead to serious crop injury.
4. Modify the surfactant statements to provide two different options for end-use product labels (pages 7 – 8 of 110). This change also has led to related changes on pages 10, 40, 73 and 82 of 110. The possibility to add surfactant in over-the-top applications in Roundup Ready crops creates the potential for transient foliar symptoms, and cautionary statements warning about this have been added on pages 36, 37, 41, and 42 of 110.
5. Include tank mix recommendations for Monsanto's products named IntRRo (Page 20 and 22 of 110) and Outrider (pages 94 – 95 of 110).
6. Include the possibility to use this product as an over-the-top application over Christmas trees via supplemental labels (page 75 and 108 - 109 of 110). This change has also required minor modifications on pages 29 – 30, 89 and 92 of 110 to avoid internal conflicts with previous "do not" statements. Such conifer release treatments have been a traditional part of glyphosate products where tree injury is not prohibitive.
7. Eliminate the geographic prohibition on applications in and around peaches and other Stone Fruits (page 30 of 110). The previous language had an historical basis, arising out of crop injury concerns from early days of Roundup usage. Monsanto believes that growers are now familiar with injury potential, and can work carefully to avoid that undesired outcome.
8. Insert a footnote (page 32 of 110) that allows aerial treatments at a preharvest timing in forage legumes at rates of 32 or 44 fluid ounces per acre. This change is already implemented on the California Aerial Supplemental Label (page 67 of 110), so this proposal extends the practice to all states. Monsanto has voluntarily adopted an upper limit on aerial treatment of 22 fluid ounces for most use patterns to reduce the potential for spray drift injury. The approved label language on page 11 of 110 allows exceptions to the general rule where specifically indicated, and this preharvest alfalfa will become such a case when the label is approved.
9. Insert language into the grass seed instructions (page 33 of 110) to specifically address "removal of established stands". Although Monsanto had thought that the term "renovation" was adequate to describe such applications, the State of Oregon has informed us that grass seed growers in their state need alternate and specific language as written, so we have begun to incorporate this change into our glyphosate labels. The same rate-based prohibitions on livestock feeding apply as if it had been considered "renovation".

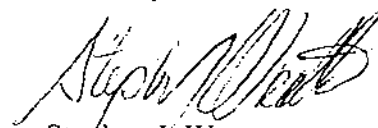
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10. Insert the possibility of using Roundup Ready canola as wildlife food plots, which may occur in present Roundup Ready canola states or in the Southeastern US. This entails changes on pages 36 and 43 of 110. The same changes were recently proposed on the 524-343 Master Label.
11. Throughout this label and other Monsanto glyphosate crop labels, we are changing the terminology away from "Annual Weeds Rate Table" to "Annual Weeds Rate Section". The same is true for the Perennial Weeds Rate and the Woody Brush and Trees Rate Sections. Changes are proposed on 43 - 44, 48, and 55 of 110. In addition, throughout the label, cross-references to these sections have also been changed, but are not MARKED, to keep the text simple to read. This terminology change has no impact on rates or use sites, and is intended to help users understand that in many high-volume spray situations, the rates of 22, 32, and 44 ounces will meet their needs without utilizing the detailed Annual Weeds Rate Table.
12. Add a supplemental label for sugarcane ripening applications (Part II.T, page 75 - 76 of 110). This set of use instructions is identical to those used for Polado L (EPA Reg. No. 524-350), and we desire to begin to replace that specific product with more widely used brands.
13. Add a supplemental label for winter varieties of Roundup Ready canola (page 76 - 77 of 110). This use has been approved for EPA Reg. No. 524-537 and has been applied for but not yet approved on the present registration.
14. Modify the turfgrass instructions in the ITO Part III.8.3 of the label (Page 91 of 110) to reflect the grazing limitations that are already part of the label at Part I.10.3 (page 33 of 110). When the Agency reviewed the new pasture grasses data, amended the feed tolerances, and approved modified use instructions, Monsanto failed to request appropriate changes in this portion of the label, and we now wish to correct that oversight.

In addition to the above changes, there are a number of minor formatting, punctuation, and trademark changes that have not been highlighted, but do not affect the scope of product use.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider (202-383-2866) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

cc: R. P. Schneider

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

296778

## Application for Pesticide - Section I

1. Company/Product Number Monsanto / 524-539	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original 2K Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.


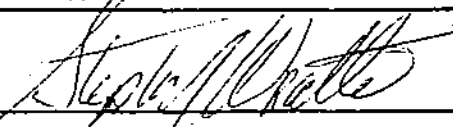
Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Amended label text for approval

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. _____ No. per container _____	If "Yes" Package wgt. _____ No. per container _____		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Russell P. Schneider		Title Director, Regulatory Affairs		Telephone No. (Include Area Code) (202) 783-2460	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					6. Date Application Received (Stamped)  
2. Signature 		3. Title Manager, Registrations			
4. Typed Name Stephen J. Wratten, Ph.D.		5. Date October 30, 2003			

...the collection of information... including...  
Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for applications for new registration, amendment to registration, final printed labeling, and...  
...must accompany the application.

1. Certification with Respect to Fictitious Data (EPA Form 8570-20); (if not applicable, delete)
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with EPA Form 85-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this form. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections III, and IV must be completed by the applicant. For applications submitted in connection with amendment, resubmission, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

**Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or an establishment. If your product is registered, insert the Product Number.

**EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.

**Proposed Classification** - Specify the proposed classification of this product.

**Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only.

**Duplication of names** is not permitted among products of the same company. Do not include any trade name or company line designations.

**Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit a written authorization for that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and working mailing address of such an agent must be provided.

**Expedited Review** - FIFRA section 3 (c) 3 (5) provides for expedited review of applications for new registrations to existing registrations that are similar or identical to other pesticide products that are currently registered with the EPA. For your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration (revise a currently registered product (amendment), for a resubmission in response to an Agency letter, for notifications to the Agency for final printed labeling, for registration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

**Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

**Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types.

Indicate the size of the individual packets and number per retail container.

**Type of Retail Container** - Indicate type of container in which product will be marketed.

**Location of Net Contents** - Indicate the location of the net contents information for your product.

**Sizes of Retail Container** - Specify the net contents of all retail containers for your product.

**Location of Use Directions** - Indicate the location of the use directions for your product.

**Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Claims, Pests)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, submission, "minor" reregistration, etc.

5. Self-explanatory.  
EPA Use Only.

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FOR OFFICIAL USE ONLY

FILE SYMBOL

LG0

REGISTRATION NO.

524

## CONFIDENTIAL STATEMENT OF FORMULA ENCLOSED

DATE SUBMITTED	SUBMITTED BY (✓)	
	APPLICANT	BASIC SUPPLIER

**Do Not Write Comments,  
Formula, or Parts of Formula  
on This Envelope**

### NOTE

It shall be unlawful—for any person to use for his own advantage or to reveal, other than to the Secretary, or officials or employees of the United States Department of Agriculture or other Federal agencies, or to the courts in response to a subpoena, or to physicians, and in emergencies to pharmacists and other qualified persons, for use in the preparation of antidotes, in accordance with such directions as the Secretary may prescribe, any information relative to formulas of products acquired by authority of Section 4 of the "Federal Insecticide, Fungicide, and Rodenticide Act."

EPA Reg # 524-539 Vol. III

Page \_\_\_\_\_ is not included in this copy.

Pages 512 through 537 are not included.

The material not included contains the following type of information:

- \_\_\_\_\_ Identity of product inert ingredients.
- \_\_\_\_\_ Identity of product impurities.
- \_\_\_\_\_ Description of the product manufacturing process.
- \_\_\_\_\_ Description of quality control procedures.
- \_\_\_\_\_ Identity of the source of product ingredients.
- \_\_\_\_\_ Sales or other commercial/financial information.
- \_\_\_\_\_ A draft product label.
- \_\_\_\_\_ The product confidential statement of formula.
- \_\_\_\_\_ Information about a pending registration action.
- \_\_\_\_\_ FIFRA registration data.
- \_\_\_\_\_ The document is a duplicate of page(s) \_\_\_\_\_.
- \_\_\_\_\_ The document is not responsive to the request.

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.